

Border Health Status Report of the 44 U.S. Counties
at the
U.S. - Mexico Border

Table of Contents

FOREWORD	3
PREFACE	4
ACKNOWLEDGEMENTS.....	5
COMMISSION TECHNICAL GROUP	6
TECHNICAL NOTES	7
KEY CONCEPTS.....	7
STATISTICAL METHODS	7
READERS GUIDE	9
ASSESSMENT FOR MEASURABLE OBJECTIVES.....	9
SECTION 1.....	10
HEALTH ISSUE 1: OVERALL MORTALITY.....	11
HEALTH ISSUE 2: DIABETES	14
HEALTH ISSUE 3: HEART DISEASE	16
HEALTH ISSUE 4: CERVICAL CANCER.....	18
HEALTH ISSUE 5: BREAST CANCER	20
HEALTH ISSUE 6: MORTALITY & ROAD TRAFFIC INJURIES - UNINTENTIONAL INJURY.....	22
HEALTH ISSUE 7: MORTALITY & ROAD TRAFFIC INJURIES- ROAD TRAFFIC-RELATED.....	24
SECTION 2.....	26
HEALTH ISSUE 8: ASTHMA.....	27
HEALTH ISSUE 9: MATERNAL MORTALITY.....	29
HEALTH ISSUE 10: GONORRHEA	30
HEALTH ISSUE 11: CONGENITAL SYPHILIS	32
REFERENCES	34
APPENDICES	36
APPENDIX A: REVIEW OF HEALTHY BORDER 2020 OBJECTIVES	37
APPENDIX B: ICD-10 CODES	46
APPENDIX C: TABLES.....	58
APPENDIX D: SUPPLEMENTAL GRAPHS	77

Foreword

The mission of the U.S.-Mexico Border Health Commission (Commission) is to provide international leadership and optimize health and quality of life along the U.S.-Mexico border. With the power to convene, the Commission strives to build consensus among two sovereign countries, 10 border states, 44 counties, 80 municipalities, and 14 sister cities. Based on Section 4(2), Public Law 103-400 of 1994, the Commission readdressed the need to “establish a unified binational health information system” to provide reliable information for setting priorities and analyzing border specific mortality and morbidity data.

Beginning in 2017, a geo-unit “44 border counties” data surveillance system to query publicly available interactive and surveillance data tools was developed through collaboration among the U.S. Section of the Commission, National Center for Health Statistics (NCHS) and the Division of Global Migration and Quarantine US/Mexico Unit (USMU). This collaboration strengthens work efforts and improves resource sharing, allowing for the gathering of quantifiable data in order to measure objectives for selected health indicators in the border region.

As an extension to the border data technical work, the U.S. Section of the Commission collaborated with NCHS to launch the CDC WONDER border interface in 2019. The datasets on the website (<https://wonder.cdc.gov/ucd-border.html>) were tailored to examine select health indicators for the 44 border counties in California, Arizona, New Mexico and Texas. The subsequent development of the *Border Health Status Report of the 44 U.S. Counties at the U.S.-Mexico Border (U.S. Border Health Status Report)* was achieved with border data from CDC WONDER. With 44-county level health statistics available, evaluating select health indicators also provides a framework to characterize both the U.S.-Mexico border region as a geographic unit and the diversity of health issues seen among the counties of the border region.

The Commission’s ability to document scientific progress from the initial public health priorities set by the Healthy Border (HB) Initiative was made possible through the long-standing collaboration with NCHS and the launching of the CDC WONDER website. Advancements in the overall reporting process also stems from historical influences of border health experts and partners who continue supporting the efforts of the Commission. With improved knowledge and methods gained from the *U.S. Border Health Status Report*, the U.S. Section of the Commission looks to enhance future HB publications and serve as a reliable information portal for border health.

Preface

The U.S.-Mexico Border Health Commission (Commission) was established as a binational commission through a Memorandum of Understanding, which has the legal status of an international treaty, signed in Washington D.C. and Mexico City on July 14 and 24, 2000, respectively. The Commission was created to “[support] health initiatives that result from collaboration, shared responsibility, and sensitivity to the health and well-being of the populations of the border region...” (Agreement between the Government of the United States of America and the Government of the United Mexican States to Establish A United States-Mexico Border Health Commission; July 24, 2000). The mission of the Commission is to provide international leadership to optimize health and quality of life along the U.S.-Mexico border.

The U.S.-Mexico border area, as defined in the La Paz Agreement of 1983, consists of the area 100 kilometers (62 miles) north and south of the international border which includes 44 counties in the four U.S. border states (California, Arizona, New Mexico and Texas) and 80 municipalities in the six Mexican border states. This region faces unique health outcomes and challenges, requiring a public health approach to look at the region as a whole rather than at the state-by-state level.

In response to public health challenges, the Commission launched the Healthy Border Initiative and published Healthy Border 2010 in 2003 followed by Healthy Border 2020 in 2015. The initiative served as a binational agenda for health promotion and disease prevention. The *Healthy Border 2020: A Prevention & Health Promotion Initiative* (HB 2020) has an overarching goal to provide a framework to improve the overall health of border residents.

The current report reviews select HB 2020 health indicators in the U.S. border states based on available public use data. The original 70 objectives were grouped into five priority areas with 20 topic health issues, as defined in HB 2020.

Data specific to the border area are historically limited and frequently grouped together with state level data, making it difficult to measure health outcomes specific to the population living and working on the border. In 2019, the U.S. Section of the Commission collaborated with NCHS to incorporate a novel county-level approach to our analysis, making it possible to input border specific data into the CDC WONDER database. This report is possible with data from CDC WONDER and the Healthcare Cost and Utilization Project (HCUP).

As with any project, unexpected challenges occurred along the way to publication, including response to a global pandemic (COVID-19), lack of available public data, and resources limitations. Using available mortality and morbidity rates, this report shares the review of measurable objectives outlined for the U.S. Healthy Border 2020 mid-term review and closeout report. The Commission plans to continue the HB Initiative and enhance continued data quality measures in the publication of Healthy Border 2030.

It is my hope that this *Border Health Status Report of the 44 U.S. Counties at the U.S.-Mexico Border* will be of value to the public health community and may serve to benefit the health of border residents.

Thomas B. Alexander
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and Principal Deputy Director
Office of Global Affairs
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Acknowledgements

The Commission recognizes the many contributions made by those individuals who, in one way or another, helped organize the development of this final report.

A special thanks is extended to the Commission's El Paso Central Office. The work and leadership of Nicole Baker and Dr. Monica Reyes were essential in the planning and shaping of this document. Without their ideas, knowledge, and intellectual drive, this work would not have materialized.

We would like to express our appreciation to Thomas Alexander and Juliana Richardson from the Office of Global Affairs. This report was completed as a result of their leadership, encouragement and perseverance.

We are especially grateful to Dr. Francis C. Notzon (Sam), Director of the International Statistics Program (ISP) at the National Center for Health Statistics (NCHS), for serving as scholar and mentor of the border for more than twenty years. Throughout the Commission's existence, Dr. Notzon has made available to the Commission continued technical assistance through the work of Juan Albertorio, Statistician at ISP. Mr. Albertorio was kind enough to gather the mortality data in order to advance the overall process and development of this report. Mr. Albertorio is a leader in striving to improve health data for the border states and has been instrumental in publishing this report.

We are also grateful for the contribution and expertise of Dr. Alfonso Rodriguez-Lainz at the Division of Global Migration and Quarantine US/Mexico Unit (USMU), who culminated the work on selected infectious disease at the border and been an excellent collaborator on public health efforts in the border region.

We are indebted to Sigrid Economou and her CDC WONDER staff, Mark Puckett, and Darrell Bauer, in particular Bill Parks, who, although is no longer with us, provided his time and dedication to this project. Mrs. Economou's vision and leadership not only allowed the novel establishment of the Border CDC WONDER interface, the cornerstone of border data, but also enabled the launching of the U.S.-Mexico Border Health Data Observatory (Observatory) website. This centralized data portal characterizing the border region as a geographic unit comprised of the 44 counties La Paz area in California, Arizona, New Mexico, and Texas.

We extend a final thank you to Ronald J. Dutton (RJ), former Director of the Texas Border Health Office. As a member of the Commission for more than twenty-five years, Dr. Dutton contributed greatly to the overall success of the Commission and the border region. We wish RJ the very best in his well-deserved retirement.

We hope that the knowledge gained and lessons learned in this process help to build a more effective campaign for Healthy Border 2030. Many thanks to all who were instrumental in completing this project.

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Technical Notes

This section provides an explanation of key concepts, statistical methods and more data used in the review of measurable objectives outlined for the U.S. Healthy Border 2020 mid-term review and closeout report. To be consistent with the work done at the national level, HB 2020 adopted key concepts proposed by the Healthy People 2020 program and incorporated additional concepts to reflect the specific regions addressed. [1]

Key Concepts

Geographic Location

The U.S. side of the U.S.-Mexico border is comprised of 44 **border counties**, located within the four southern U.S. **border states** (Arizona, California, New Mexico, and Texas), which make up the **border region** based on the La Paz Agreement of 1983. For the complete list of counties, see Appendix C, **Table 22**.

Ethnicity: Hispanic or Latino

A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term “Spanish origin” can be used in addition to Hispanic or Latino. Persons of Hispanic origin may be of any race, and persons in the various race groups may be of any origin. [1]

Persons of Hispanic origin may be of any race. Non-Hispanic refers to non-Hispanic white, non-Hispanic black, non-Hispanic American Indian or Alaska Native (AIAN), non-Hispanic Asian or Pacific Islander (API).

Sex

Sex is often, but not always, self-reported or recorded by health care professionals based on observation or written records. In HB 2020 there are a small number of objectives that are sex-specific, meaning they apply only to males or females.

Objective Types

A list of selected health indicators used to measure the health status of the border region.

- Not Measurable objectives did not have a baseline value available for the border region.
- Measurable objectives had a baseline value available for the border region.

Statistical Methods

Objectives moving toward their targets

This movement was measured as the percentage of targeted change achieved (unless the target was already met or exceeded at baseline):

$$\text{Percentage of Targeted Change Achieved} = \left(\frac{\text{Follow-up value} - \text{Baseline value}}{\text{HB 2020 Target} - \text{Baseline value}} \right) \times 100$$

Objectives moving away from the baseline and targets:

Movement away from the baseline was measured as the magnitude of the percentage change from the baseline:

$$\text{Magnitude of Percent Change from the Baseline} = \left(\frac{\text{Follow-up value} - \text{Baseline value}}{\text{Baseline value}} \right) \times 100$$

Age Adjustment

Age adjustment is a statistical technique used to compare risks for two or more populations with different age structures. Population age structures can vary over time, by geographic area and sociodemographic characteristics. In HB 2020, age-adjusted rates are computed by the direct method, which consists of applying data that are age-adjusted to the 2000 U.S. standard population in order to eliminate differences in observed rates that result from age differences in the population

composition. Further information on age adjustment, including detailed information on methods, is available in various National Center for Health Statistics (NCHS) publications. [2] [3]

Statistical significance

Statistical significance was tested when the objective had a target, at least two data points, and standard errors and a normal distribution could be assumed. Statistical significance of the percentage of targeted change achieved or the magnitude of the percentage change from baseline was assessed at the 0.05 level using a 1-sided test [4].

Suppressed data

S= Suppressed; ten cases or less were suppressed to comply with confidence regulations and practices that limits the presentation of small number of cases.

Baseline value

The pre-established period to delineate a comparison starting point (i.e., 2011).

Mid-term value

The pre-established period to describe a middle-point for comparison of trends (i.e., 2015).

Closeout

The pre-established period to outline the final point for comparison of trends (i.e., 2018).

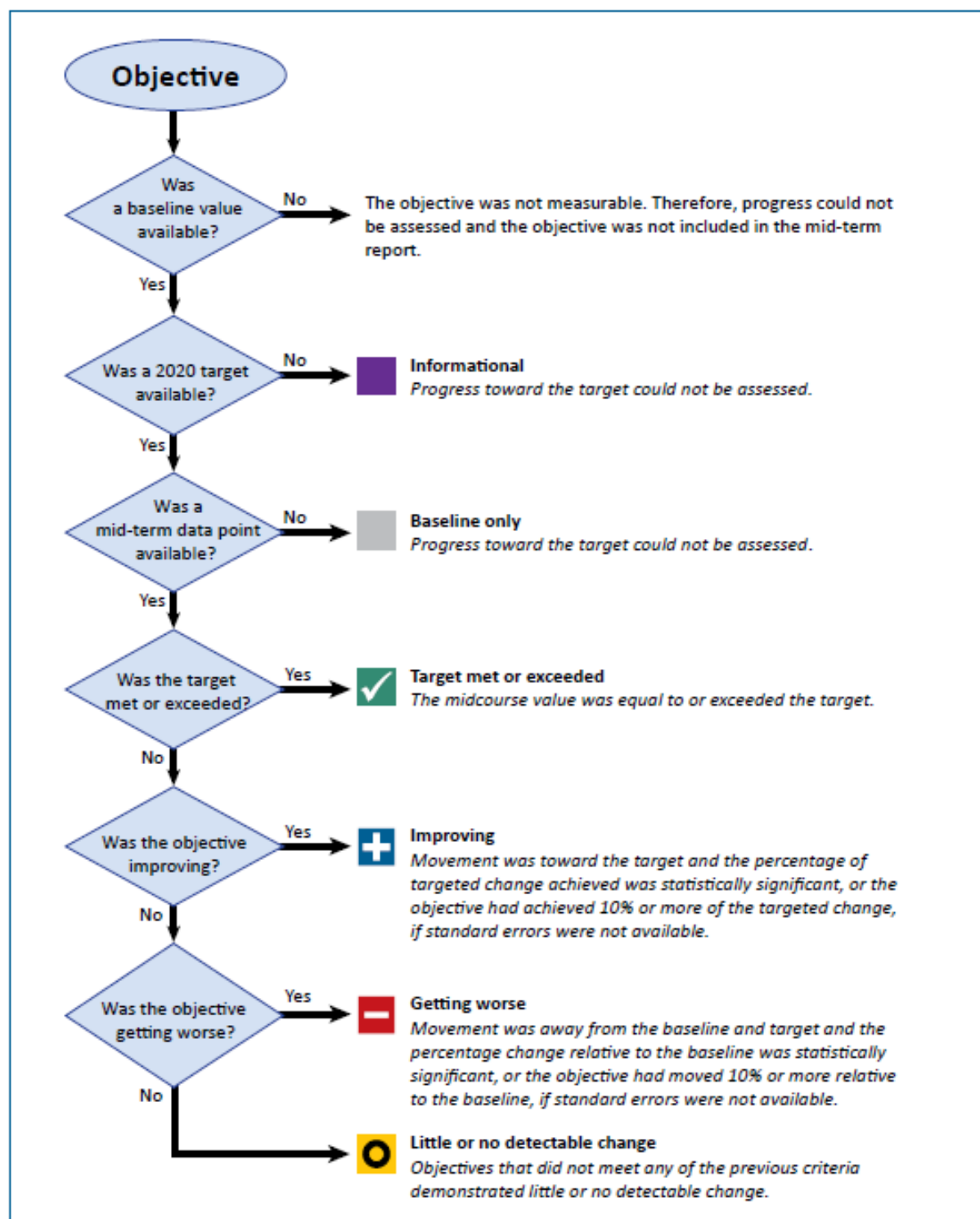
Target

A desired end-point value set for each indicator that serves as a goal to be achieved by 2020.

Readers Guide¹

Assessment for Measurable Objectives

"Healthy People 2020 Midcourse Review; Chapter II: Reader's Guide," [5]



¹ The Readers Guide provides a visual aid to understand the objective status that are presented in Appendix A.

Section 1

The following section provides a review of the Healthy Border 2020 measurable objectives in where public use data was available at the time of publication.

- Health Issue 1: Overall Mortality

HB 2020 Priority Area: Chronic & Degenerative Disease

- Health Issue 2: Diabetes
- Health Issue 3: Heart Disease
- Health Issue 4: Cervical Cancer
- Health Issue 5: Breast Cancer

HB 2020 Priority Area: Injury Prevention

- Health Issue 6: Mortality & Road Traffic Injuries – Unintentional Injury
- Health Issue 7: Mortality & Road Traffic Injuries – Road Traffic-Related

Health Issue 1: Overall Mortality

Overall mortality provides a basic epidemiological profile for the border region. The following content provides an overall mortality view for all the border resident population by sex, Hispanic and non-Hispanic origin, and border counties by state.¹

Figure 1: Age Adjusted Overall Deaths per 100,000 Population, Border Region, Select Years: 2011-2018²

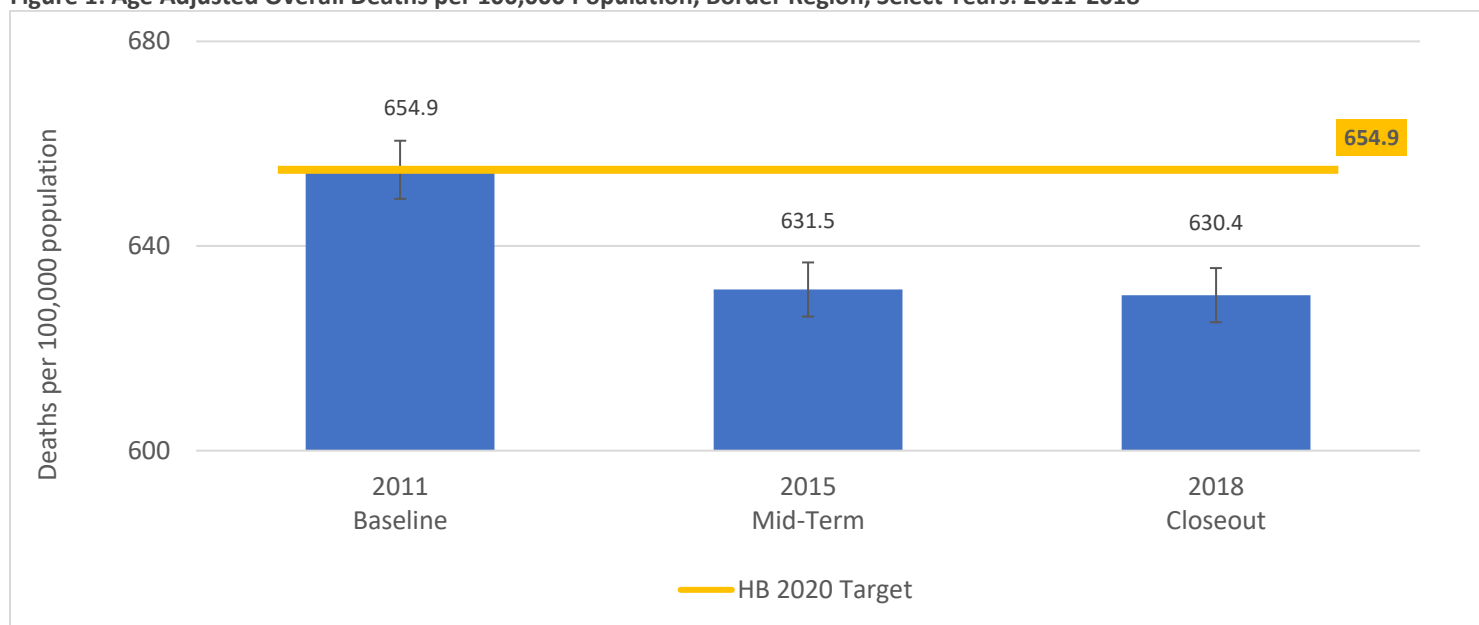
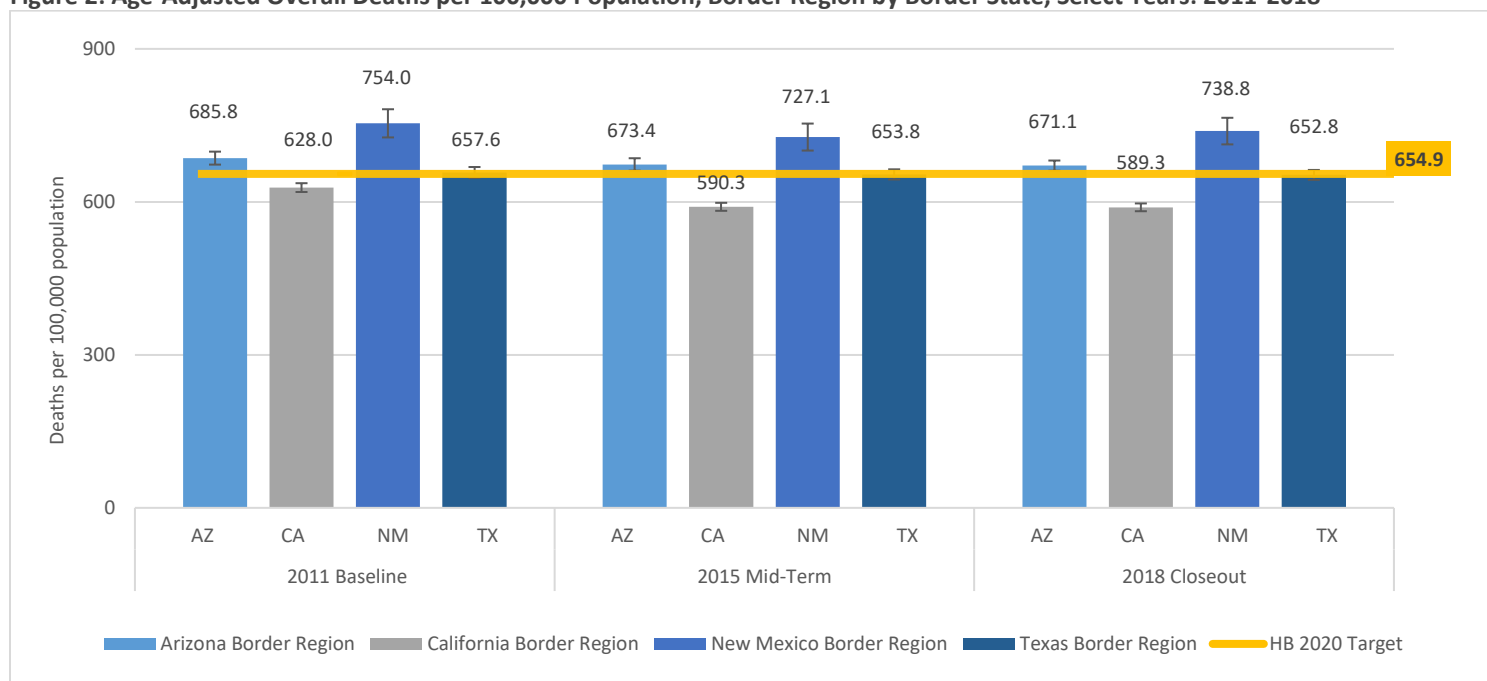
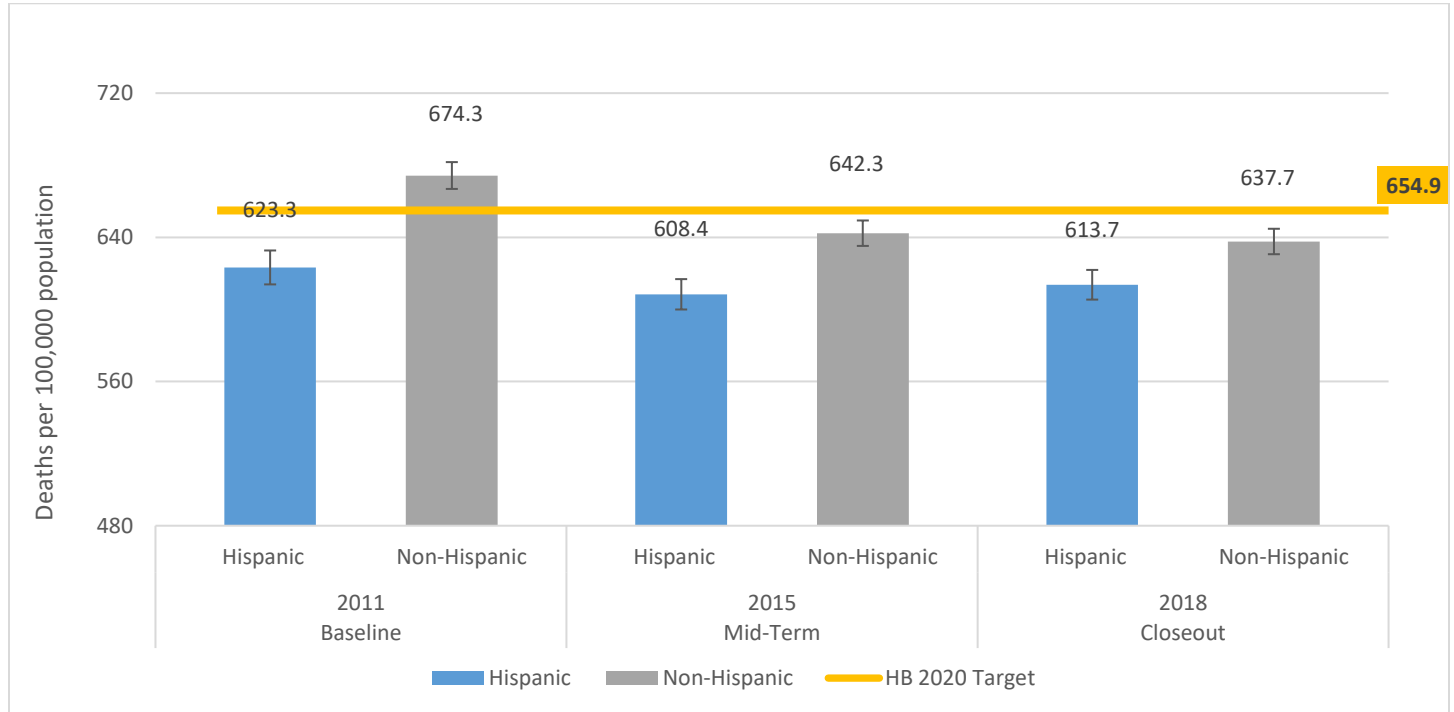
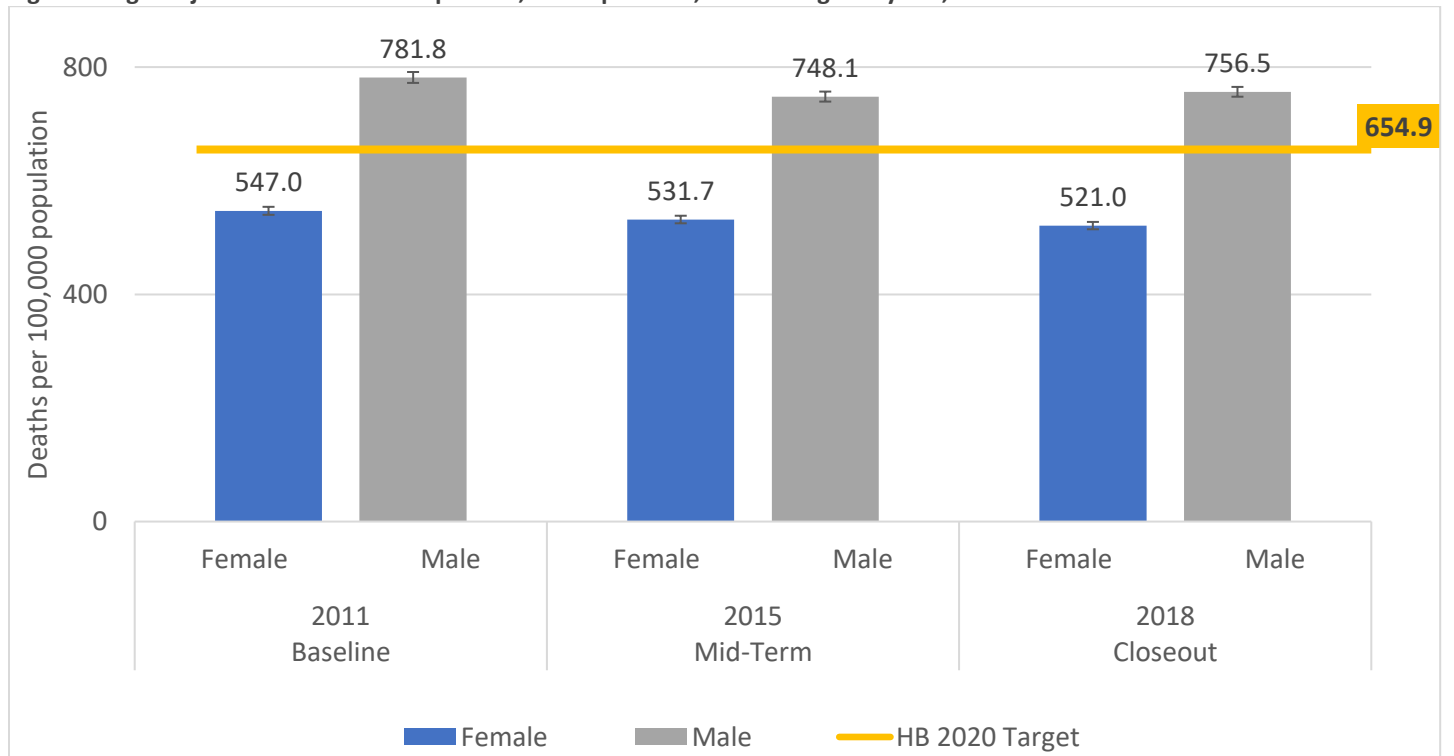


Figure 2: Age-Adjusted Overall Deaths per 100,000 Population, Border Region by Border State, Select Years: 2011-2018²



¹ The Technical Notes provide more information on Healthy Border 2020 statistical methods and concepts.

² Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Figure 3: Age-Adjusted Overall Deaths per 100,000 Population, Border Region by Hispanic and Non-Hispanic Origin, Select Years: 2011-2018¹**Figure 4: Age-Adjusted Overall Deaths per 100,000 Population, Border Region by Sex, Selected Years: 2011-2018¹**

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Selected findings

- Mortality for the border region
 - The U.S.-Mexico border region showed a substantial ($p=0.01$) decrease in mortality rate (3.74%) from 2011 (654.9) to 2018 (630.4), while the U.S. non-border region showed a significant decrease of 2.35% ($p=0.01$) between 2011 (743.3) to 2018 (725.8). (Table 1: Overall Deaths per 100,000 Population, by Region: 2011-2018 Table 1).
 - In 2011, the overall age adjusted mortality rate for the border counties was 654.9 deaths per 100,000 population.
 - In 2015, the death rate decreased significantly to 631.5 deaths per 100,000 population ($p<0.01$) and in 2018, the overall mortality decreased to 630.4 per 100,000 population. In comparison to the HB 2020 baseline (2011), there is a statically significant decrease of the overall death rate ($p<0.01$, 3.74% decrease from 2011 to 2018).(**Figure 1**)
- Mortality for border region by state
 - New Mexico border region consistently had the highest age-adjusted mortality rate at the border between 2011 (754.0) and 2018 (738.8), while the California border region consistently had the lowest mortality rate of the four border states between 2011 (628.0) and 2018 (589.3).(**Figure 2; Table 2**)
- Mortality by Hispanic origin
 - In 2011, the overall death rate was 7.6% higher among the non-Hispanic population (674.3 per 100,000 population) compared with the Hispanic border population (623.3). In 2015 and 2018 the same trend persists in where non-Hispanic (637.7) report to be more than 3% higher than the Hispanic age-adjusted overall mortality rate (613.7, $p=0.01$). (**Figure 3; Table 3**)
- Mortality by sex
 - Males had a higher overall death rate in 2011 (781.8 per 100,000) versus females (547.0 per 100,000), as well as in 2018 (756.5 and 521.0 respectively). (**Figure 4; Table 4**)

Remarks

- Among U.S. border states, New Mexico has the smallest border population (2011; 350,766 and 2018; 350,820) while California has the largest border population (2011; 3,317,126 and 2018; 3,525,191), suggesting a need to better understand existing health disparities between the border states and ways to bridge the gaps. It may be beneficial to examine the rates for the bordering Mexican states (Arizona: Sonora; California: Baja California/Sonora; New Mexico: Sonora/Chihuahua; Texas/ Chihuahua/Coahuila/Nuevo Leon/ Tamaulipas) to see if the data suggests similar disproportions in death rates per state at the Mexican border site.
- Data shows the lowest age adjusted mortality rate for the border region varies between 2011 and 2018 depending on the border state area; with the lowest rate in Arizona in 2014 (659.3), California in 2014 (583.2), New Mexico in 2015 (727.1) and Texas in 2016 (645.5). Recommendations are to further analyze programs and circumstances in each state during the respective years to better understand the data. (**Table 2**)

More Information

- Data source for this Health Issue were from the CDC WONDER Online Database. [6]¹

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Health Issue 2: Diabetes

Goal: Maintain the mortality rate at the 2011 baseline

Profile of the Objective

- Mid-term: Little or no detectable change 🟡: Increased 6.3% from baseline
- Closeout: Little or no detectable change 🟡: Increased by 9.7% from baseline

Figure 5: Age-Adjusted Diabetes-Related Deaths per 100,000 Population, Border Region, Select Years: 2011-2018¹

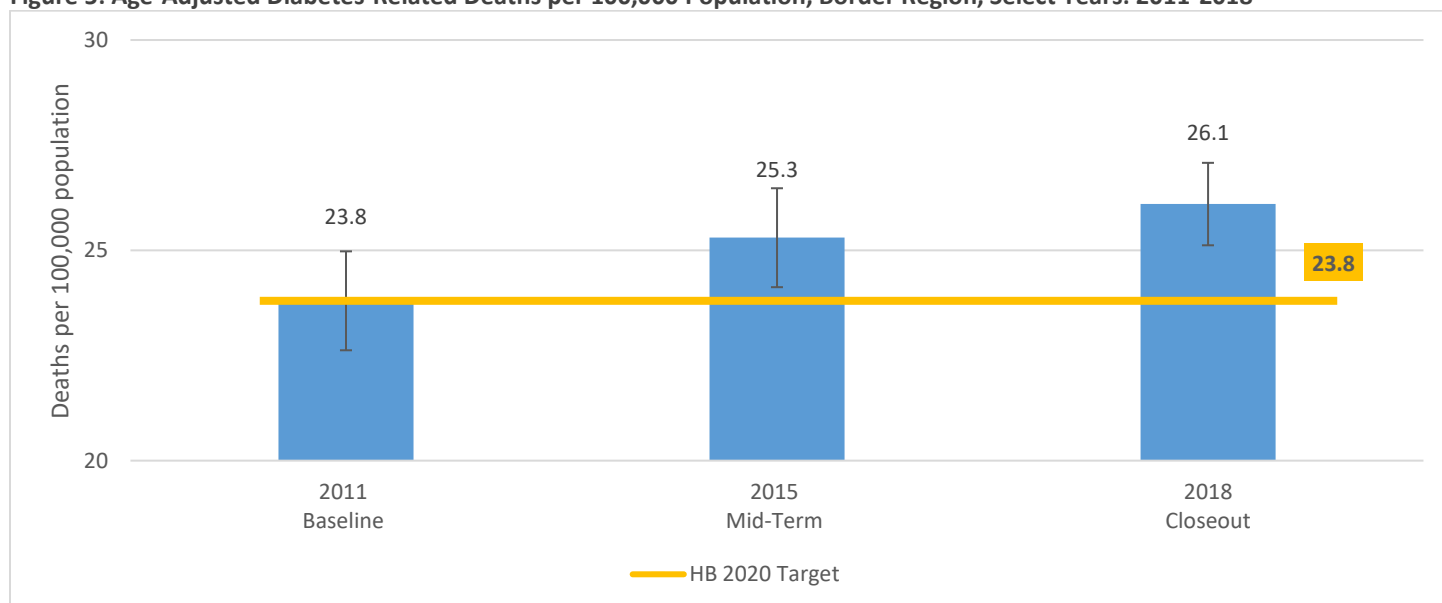
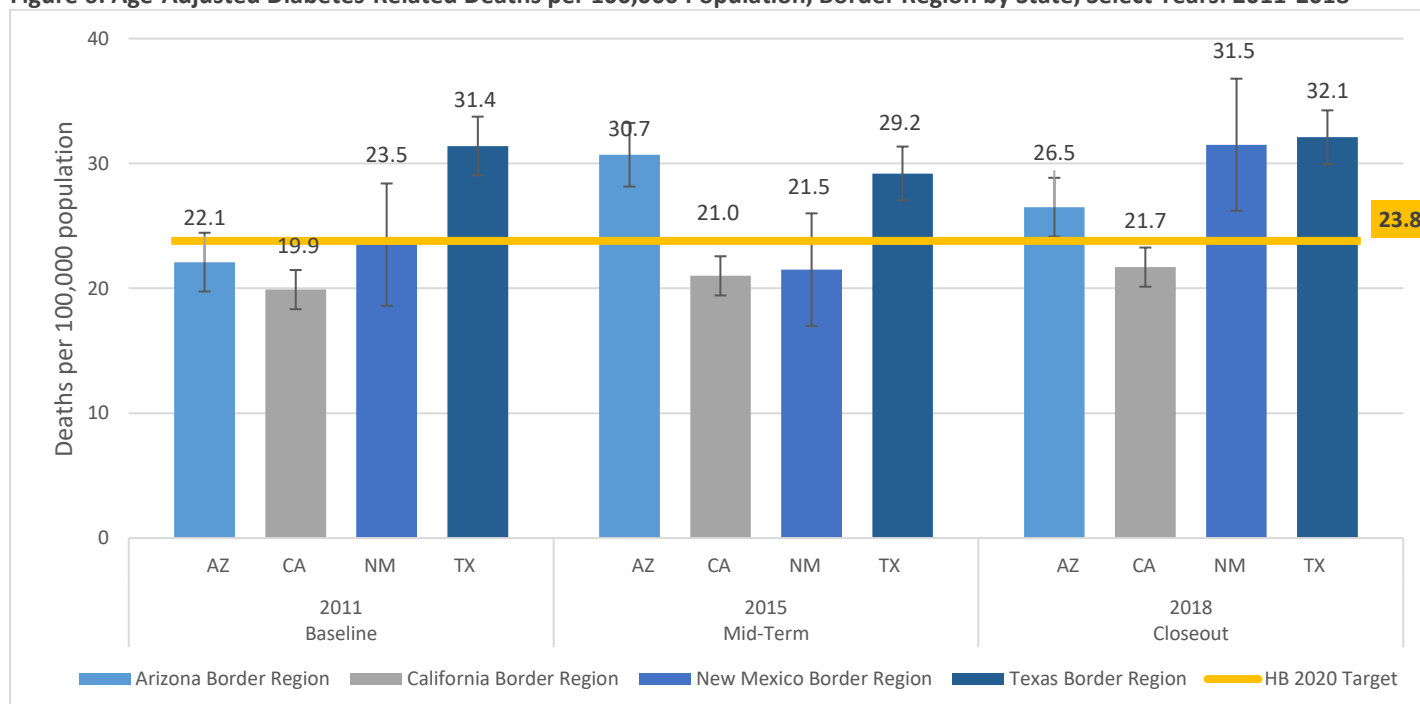


Figure 6: Age-Adjusted Diabetes-Related Deaths per 100,000 Population, Border Region by State, Select Years: 2011-2018¹



¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Selected findings

- Mortality for the border region
 - The age-adjusted diabetes death rate for the border region was 23.8 per 100,000 population at the 2011 baseline. From the baseline to the mid-term, the death rate increased by 6.3% (25.3 per 100,000 population). Compared to 2011, in 2018, the diabetes death rate increased by 9.7% (26.1 per 100,000 population). (Figure 5; Table 5)
- Mortality for the border region by state
 - At baseline, Texas, New Mexico and Arizona border regions reported the highest death rates related to diabetes (31.4, 23.5 and 22.1 per 100,000 population, respectively). California reported the lowest death rate at baseline (19.9 per 100,000 population). However, the death rate increases are statistically significant in the California border region at mid-term and in 2018 (21.0 and 21.7 per 100,000 population). (Figure 6; Table 6)
 - The Arizona border region also reported a significantly higher ($P=0.01$) death rate increase of 38.9% at mid-term (30.7 per 100,000 population) followed by a decrease of 13.7% in 2018 (26.5 per 100,000 population). (Figure 6; Table 6)
 - The New Mexico border region reported the highest peak of death rate by 46.5% from mid-term to 2018 (21.5 to 31.5 per 100,000 population). By comparison, the Texas border region reported the highest death rate associated with diabetes at baseline (31.4 per 100,000 population). (Figure 6; Table 6)
 - Although Texas reported a decrease of 7.0% (29.2 per 100,000 population) at the mid-term period, the death rate increased by 2.2% (32.1 per 100,000 population) from 2011 to 2018, whereby placing the Texas border region again with the highest deaths associated with diabetes in 2018. (Figure 6; Table 6)

Remarks

- Further analysis is needed to determine the underlying reasons for the higher diabetes death rate among residents from the border regions of New Mexico and Arizona. There were dramatic peaks of reported death rates from mid-term to 2018. Particular interest must be on determining if disparities exist between age groups, gender and Hispanic origin.

More Information

- Data source for this Health Issue were from the CDC WONDER Online Database. [6]

Health Issue 3: Heart Disease

Goal: Maintain the mortality rate at the 2011 baseline

Profile of the Objective

- Mid-term: Target met ☒ : Decreased by 10.9% from baseline
- Closeout: Target met ☒ : Decreased by 16.7% from baseline

Figure 7: Age-Adjusted Heart Disease Deaths per 100,000 Population, Border Region, Select Years: 2011-2018¹

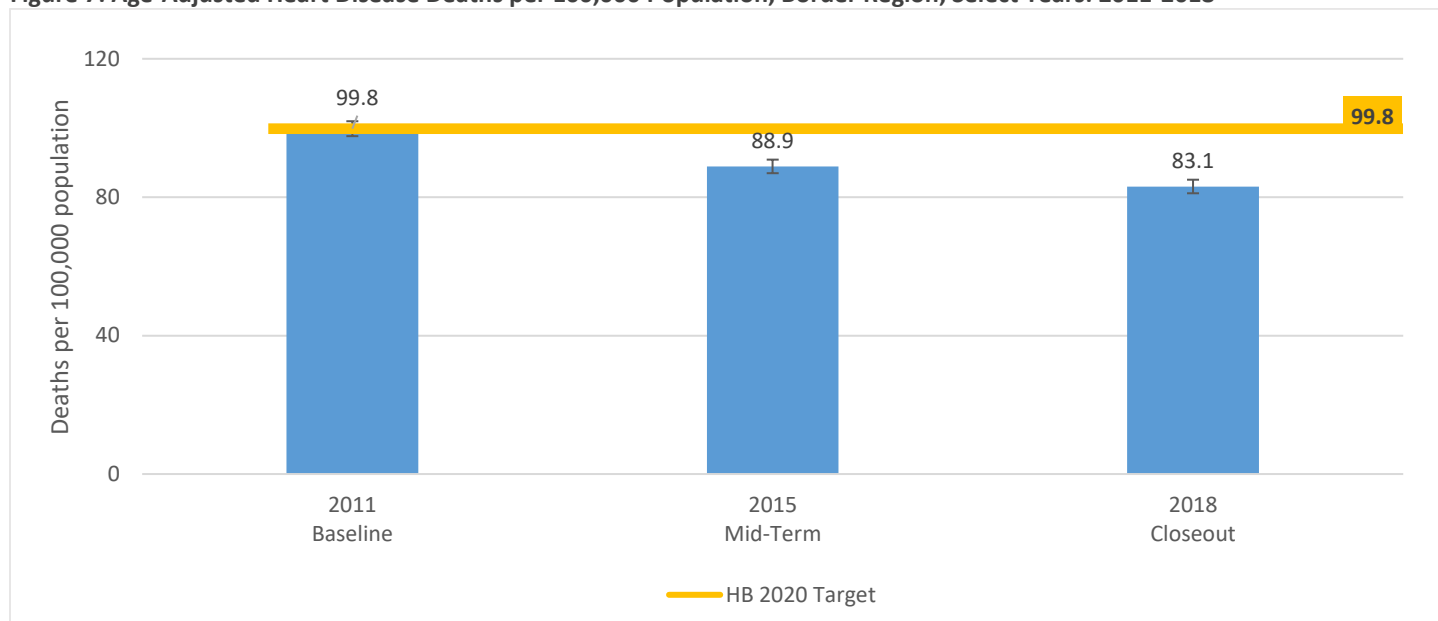
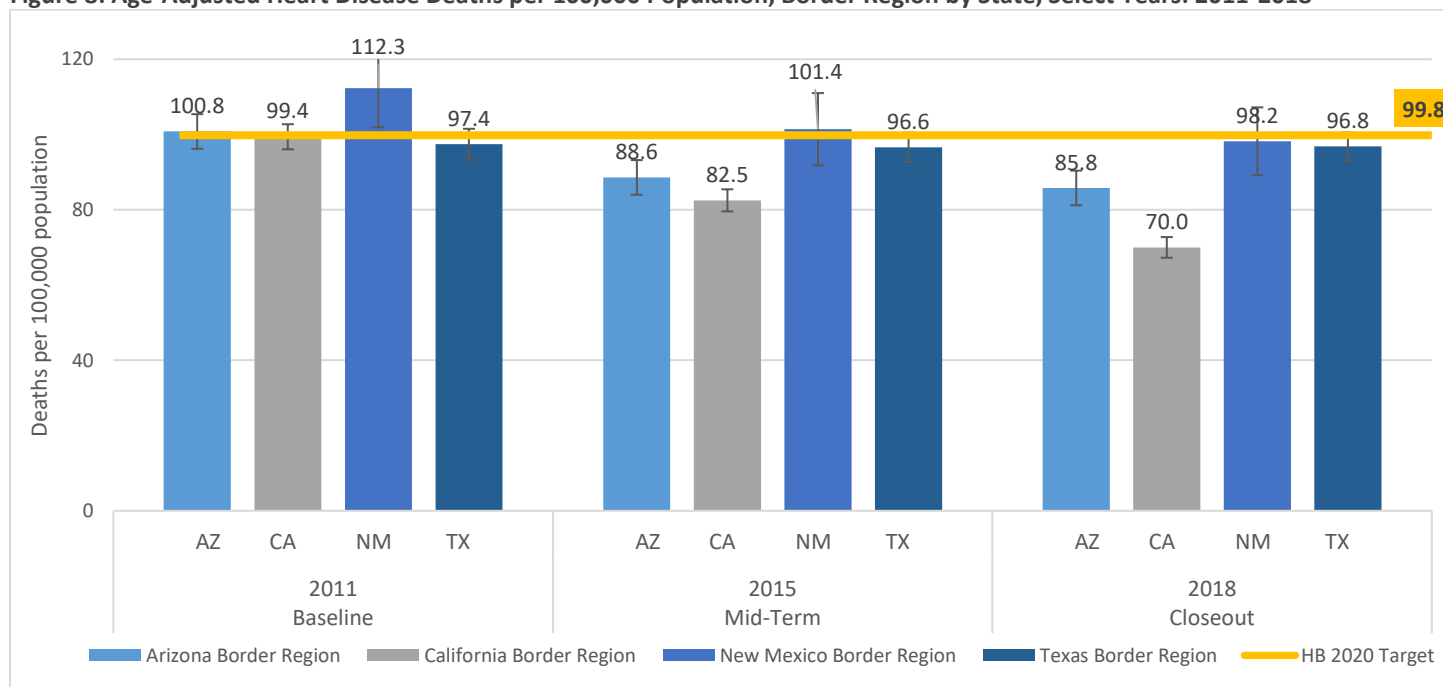


Figure 8: Age-Adjusted Heart Disease Deaths per 100,000 Population, Border Region by State, Select Years: 2011-2018¹



¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Selected findings

- Mortality for the border region
 - The age-adjusted heart disease death rate for the border region was 99.8 per 100,000 population at the 2011 baseline. In comparison to the baseline, at mid-term, the death rate decreased by 10.9% (88.9 per 100,000 population). In 2018, compared with the baseline, the death rate decreased by 16.7% (83.1 per 100,000 population). (Figure 7; Table 7)
- Mortality for border region by state
 - At baseline, New Mexico and Arizona border regions reported the highest death rates related to heart disease (112.3 and 100.8 per 100,000 population, respectively). Texas reported the lowest death rate at baseline (97.4 per 100,000 population) followed by California (99.4 per 100,000 population). (Figure 7; Figure 8; Table 8)
 - The trend of heart disease death rates, decrease at the border region by border states, continues from mid-term and in 2018. For example, the Arizona border region reported decreases in death rate at mid-term and closeout (88.6 and 85.8 per 100,000 population). (Figure 8; Table 8)
 - The same trends were reported at mid-term and in 2018 for the California (82.5 and 70.0 per 100,000 population) and New Mexico border region (101.4 and 98.2 per 100,000 population). While the Texas border region reported a death rate decrease of 0.8% (96.6 per 100,000 population) in the mid-term period, and a nominal death increase of 0.2% in 2018 (96.8 per 100,000 population). (Figure 8; Table 8)

Remarks

- Further analysis is needed to determine the underlying reasons for the higher heart disease death rate among residents from the border region of New Mexico. Although there were decreases of reported death rates from mid-term and in 2018, particular interest must be on determining if disparities exist between age groups, gender and Hispanic origin.

More Information

- Data source for this Health Issue were from the CDC WONDER Online Database. [6]

Health Issue 4: Cervical Cancer

Goal: Decrease the mortality in women 25 years and older by 20%

Profile of the Objective

- Mid-term: Getting Worse 📉: Increased 25% from baseline
- Closeout: Little or no detectable change 🟡: Decreased by 5.6% from baseline

Figure 9: Age-Adjusted Cervical Cancer Deaths per 100,000 Female Population, Border Region, Select Years: 2011-2018¹

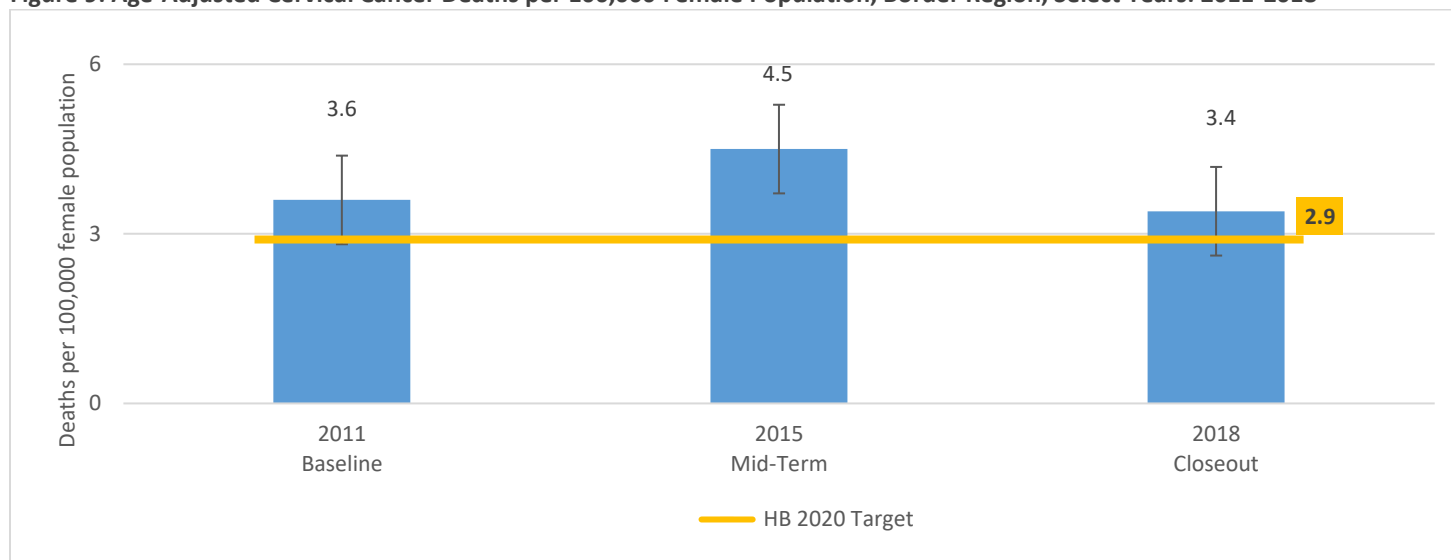
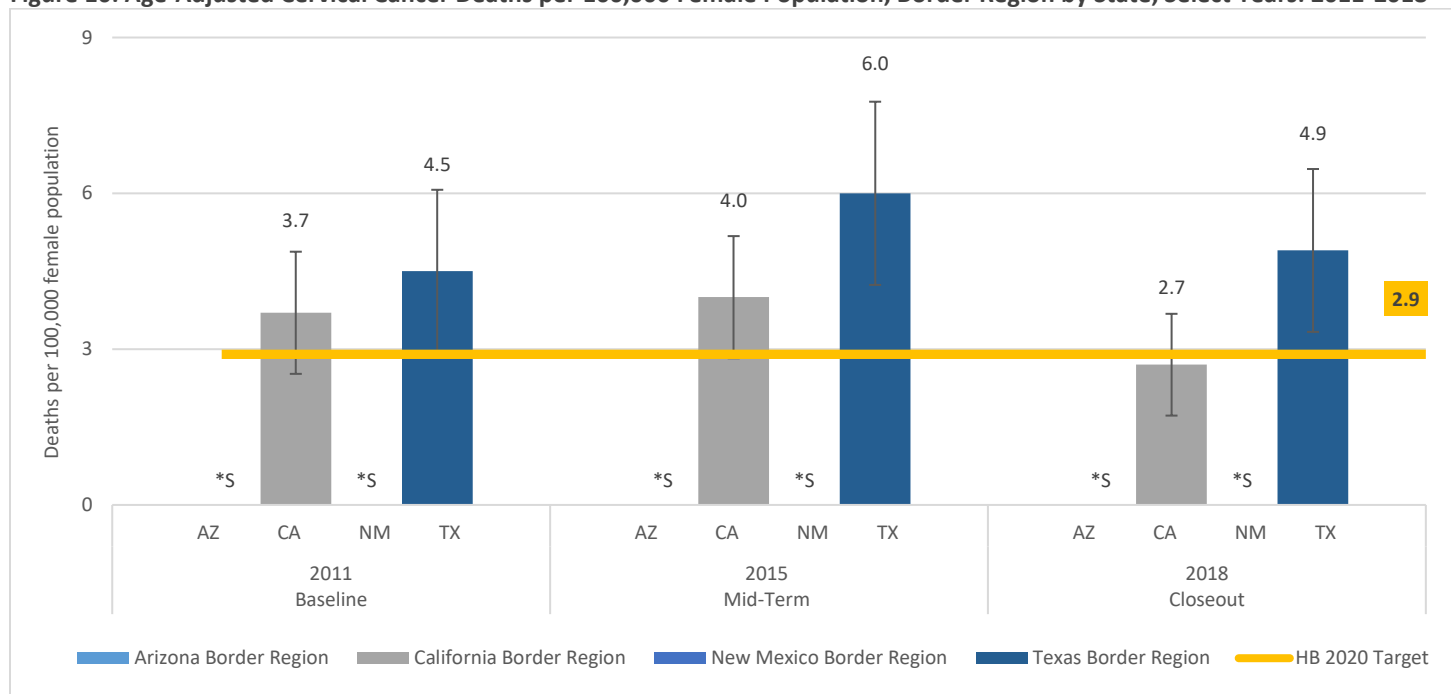


Figure 10: Age-Adjusted Cervical Cancer Deaths per 100,000 Female Population, Border Region by State, Select Years: 2011-2018¹



*S=Suppressed

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Selected findings

- Mortality for the border region
 - The age-adjusted cervical cancer death rate among females 25 years and older for the border region was 3.6 per 100,000 females at the 2011 baseline. (Figure 9; Table 9)
 - Compared to the baseline, at the mid-term period, the age-adjusted cervical cancer death rate increased by 25% among females 25 years and older (4.5 per 100,000 population). (Figure 9; Table 9)
 - In 2018, compared to the baseline, the cervical cancer death rate of the border region decreased by 5.6%. However, this decrease was not significant ($p = 0.72$). (Figure 9; Table 9)
- Mortality for the border region by state
 - In comparison to California, Texas reported the highest rate of cervical deaths at the 2011 baseline year (4.5 per 100,000 population) and at the mid-term (6.0 per 100,000 population), which is 66.7% higher than the selected HB 2020 objective (3.6%). Data for Arizona and New Mexico were suppressed. (Figure 10; Table 10)

Remarks

- It has been documented that women living on the United States-Mexico border, experience disproportionate health disparities, are less likely to access cervical cancer screening services and have a higher rate of cervical cancer incidence, compared to women living in non-border areas. [7] [8] [9] [10] [11]

More Information

- Data for the border states of Arizona and New Mexico are suppressed based on less than twenty cases. Arizona and New Mexico are included in the total for the border region; however, data for both states are not included individually to protect confidentiality. [12]
- Data source for this Health Issue were from the CDC WONDER Online Database. [6]

Health Issue 5: Breast Cancer

Goal: Maintain the baseline for breast cancer mortality in women

Profile of the Objective



- Mid-term: Target met/exceeded  : Decreased by 2.1% from baseline
- Closeout: Target met/exceeded  : Decreased by 2.6% from baseline

Figure 11: Age-Adjusted Breast Cancer Deaths per 100,000 Female Population, Border Region, Select Years: 2011-2018¹

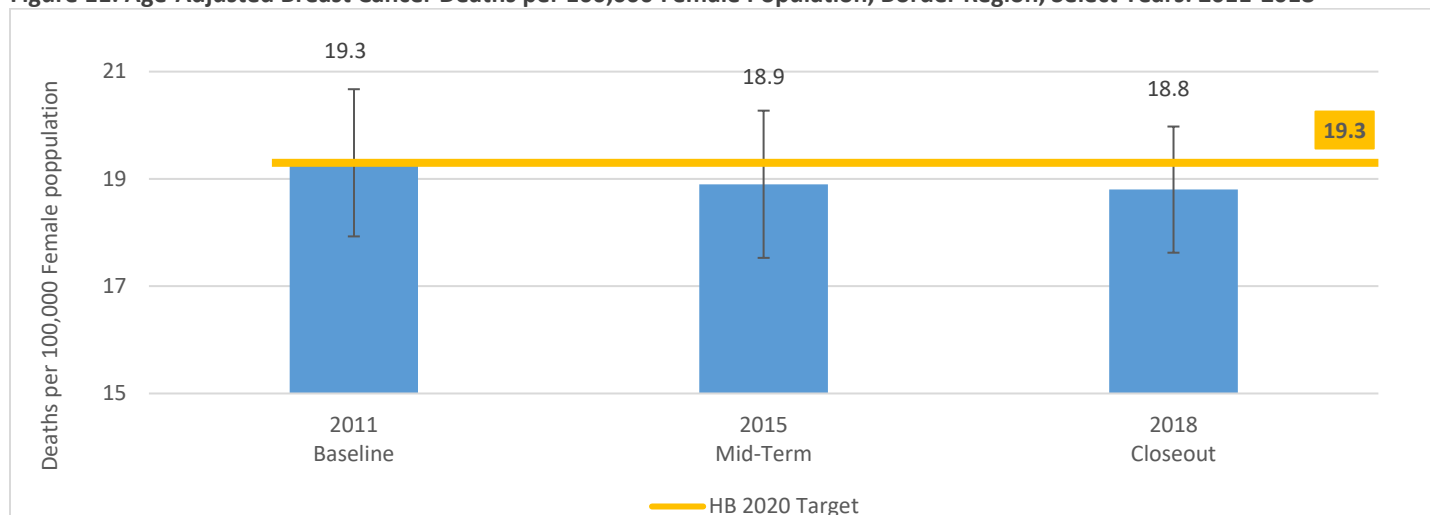
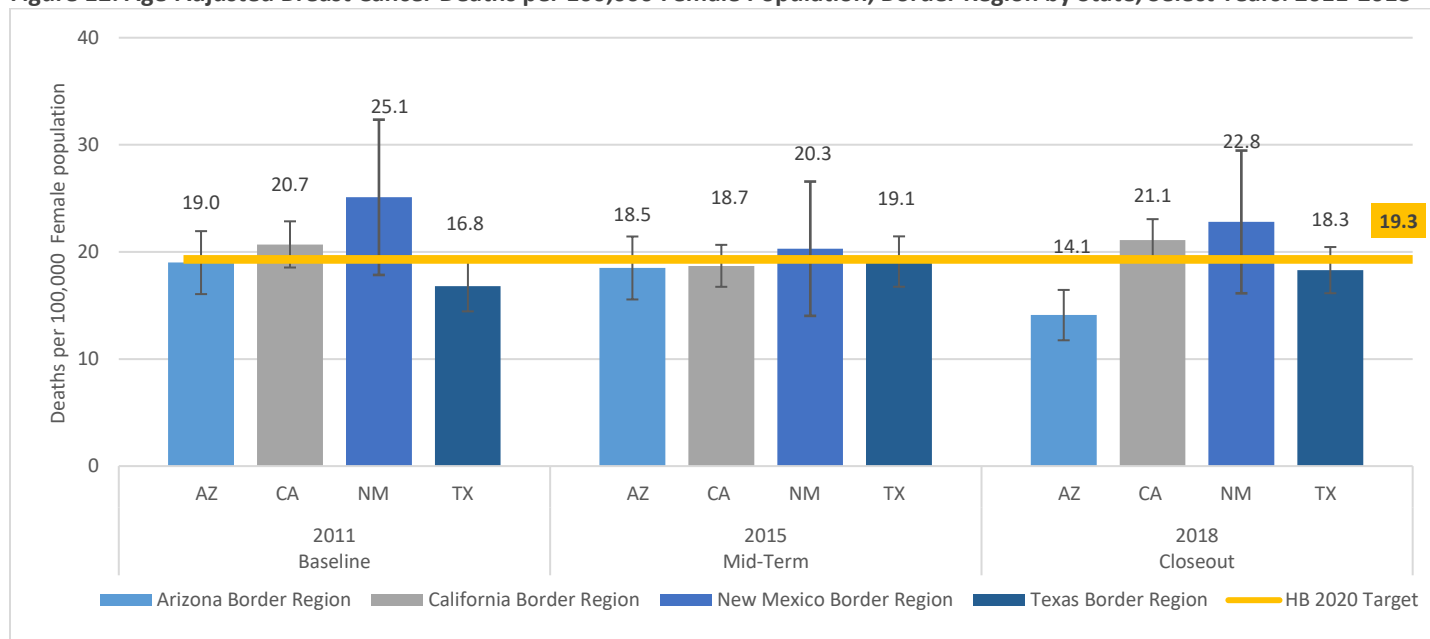


Figure 12: Age-Adjusted Breast Cancer Deaths per 100,000 Female Population, Border Region by State, Select Years: 2011-2018¹



¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Selected findings

- Mortality for the border region
 - The HB 2020 target for the age-adjusted female breast cancer mortality rate is 19.3 per 100,000 (i.e., 2011 baseline). (Figure 11, Table 11)
 - At the mid-term period (i.e., 2015), the border region reported a decrease of 2.1% (18.9 per 100,000 female population). (Figure 11, Table 11)
 - In 2018, the overall border female breast cancer death rate decreased by 2.6 % to meet the HB 2020 target at 18.8 per 100,000 female population. This decrease is not statistically significant ($p=0.48$). (Figure 11, Table 11)
- Mortality for the border region by state
 - Among the border region, in 2011, New Mexico and California reported the highest age-adjusted death rate caused by female breast cancer (25.1 and 20.7 per 100,000 female population, respectively). On the other hand, the Arizona death rate was under the HB 2020 target (19.0 per 100,000 population), and the Texas border region reported the lowest of all the border (16.8 per 100,000 female population). (Figure 12; Table 12)
 - In 2015, Arizona (18.5), California (18.7), and the Texas border region (19.1) met the target with lower female breast cancer death rates than the designated HB 2020 target (i.e., 19.3). On the other hand, New Mexico reported the highest rate (20.3 per 100,000 population). (Figure 12; Table 12)
 - In 2018, Arizona (14.1) and Texas (18.8) met the HB 2020 target of 19.3 per 100,000 population, while California (21.1) and New Mexico (22.8) both showed a significant increase from the mid-term (i.e., 2015). (Figure 12; Table 12)

Remarks

- This objective measured the deaths from breast cancer among the female border population. It is important to note, breast cancer deaths also occur in the male population. In the future, tracking the male population will provide additional insight for this objective.

More Information

- Data source for this Health Issue were from the CDC WONDER Online Database. [6]

Health Issue 6: Mortality & Road Traffic Injuries - Unintentional Injury

Goal: Reduce unintentional injury deaths

Profile of the Objective

- Mid-term: Little or no detectable change 🟡: Increased 1.18% from baseline
- Closeout: Getting worse 🔴: Increased by 12.1% from baseline

Figure 13: Age- Adjusted Unintentional Injury Deaths per 100,000 Population, Border Region, Select Years: 2011-2018¹

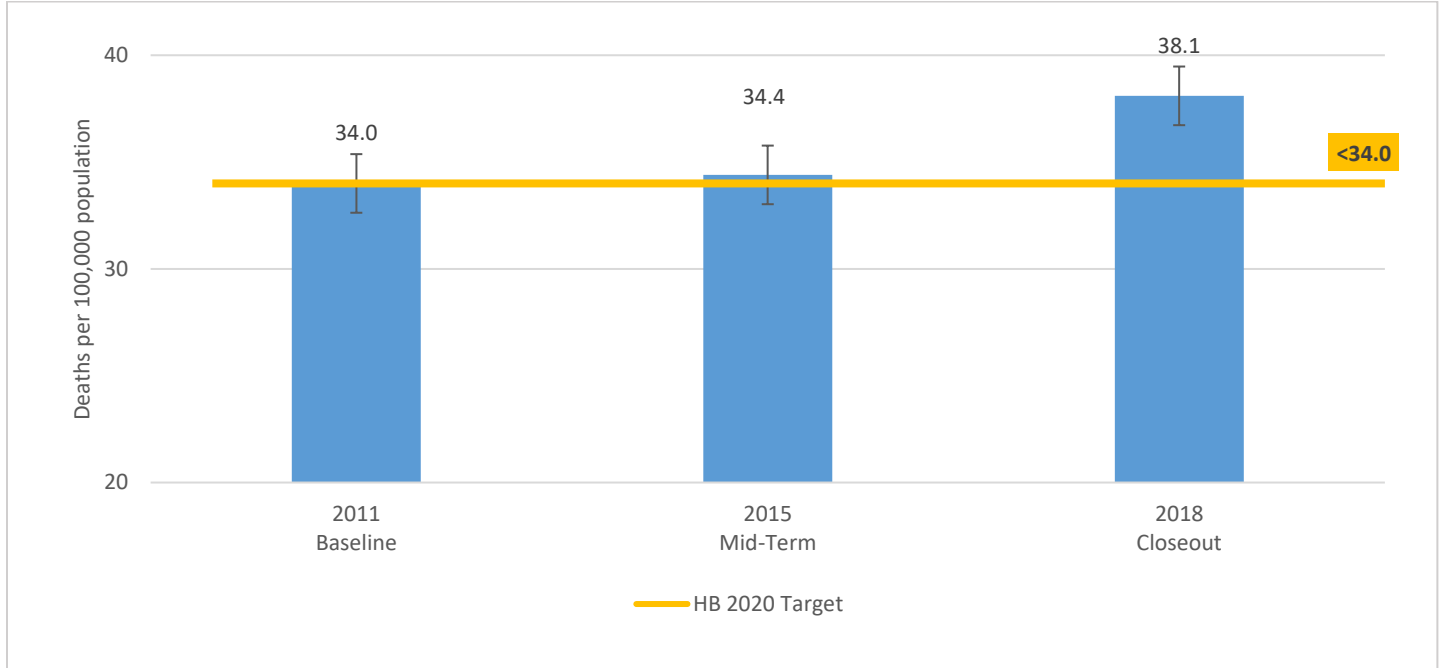
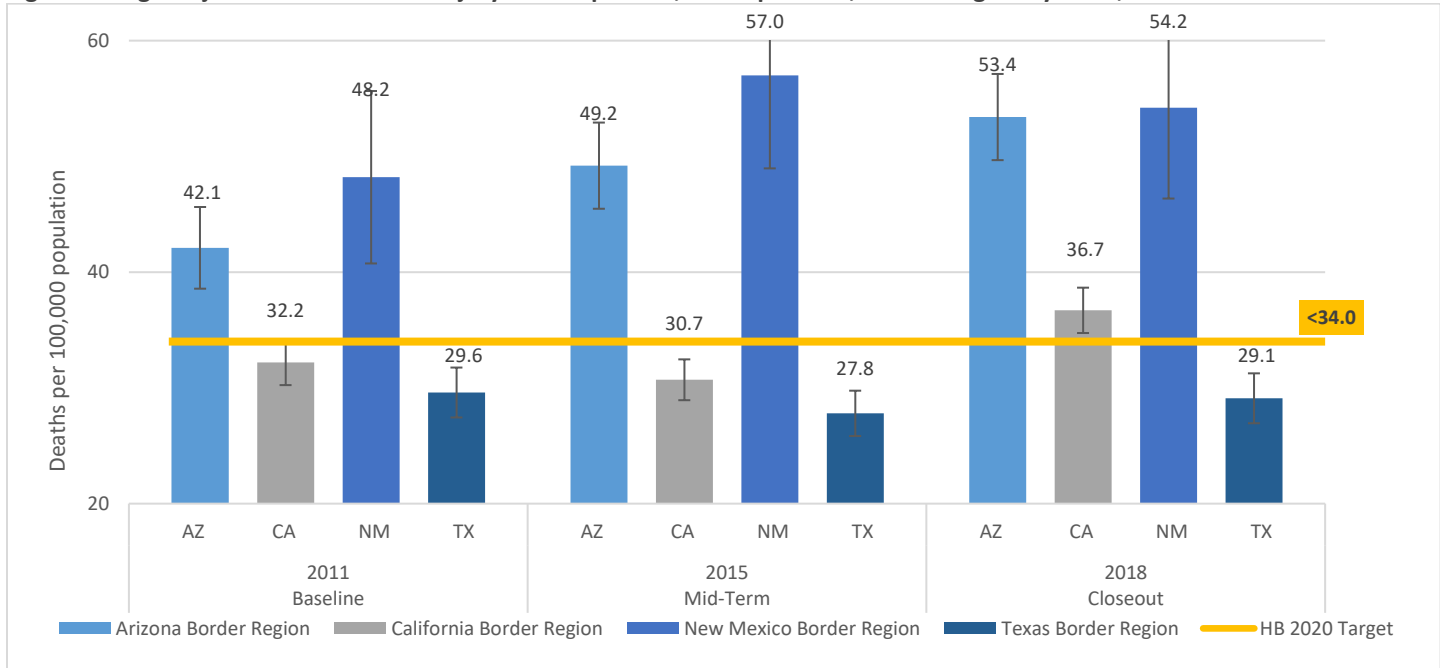


Figure 14: Age-Adjusted Unintentional Injury Deaths per 100,000 Population, Border Region by State, Select Years: 2011-2018¹



¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Selected findings

- Mortality for the border region
 - The age-adjusted death rate of unintentional injuries (i.e., accidents) for the border region was 34.0 per 100,000 population (i.e., 2011 baseline). Compared to the baseline, at mid-term, the reported death rate increased modestly by 1.2% (34.4 per 100,000 population). From the baseline to the closeout in 2018, the rate of unintentional injuries at the border increased significantly by 12.1% (38.1 per 100,000 population, $p=0.04$). (Figure 13; Table 13)
- Mortality for border region by state
 - At baseline, the Arizona and New Mexico regions reported the highest unintentional injury deaths (42.1 and 48.2 per 100,000 population). This pattern continues to be present at the mid-term and in 2018. From 2011 to 2018, the death rate from unintentional injuries in the Arizona border region increased by more than 25% (53.4 per 100,000 population). For New Mexico, the death rate increased by 12% (54.2 per 100,000 population). In 2011, the Texas border region reported the lowest unintentional injury death rate for the entire border (29.6 per 100,000 population); a pattern that was consistent throughout the mid-term and in the 2018 close out period. (Figure 14; Figure 36; Table 14)

Remarks

- Further attention is needed to determine the specific demographic aspect of higher death rates among the border residents from the selected border region of Arizona and New Mexico. Particular interest has to be in place to determine if evidence of unintentional injury death rates disparities exist between age groups, gender and Hispanic origin.

More Information

- Data source for this Health Issue were from the CDC WONDER Online Database. [6]

Health Issue 7: Mortality & Road Traffic Injuries- Road Traffic-Related

Goal: Reduce road traffic-related deaths per 100,000 population

Profile of the Objective

- Mid-term: Target met ✓
- Closeout: Getting worse 📉: Increased by 12.9% from baseline

Figure 15: Age-Adjusted Road Traffic-Related Deaths per 100,000 Population, Border Region, Select Years: 2011-2018¹

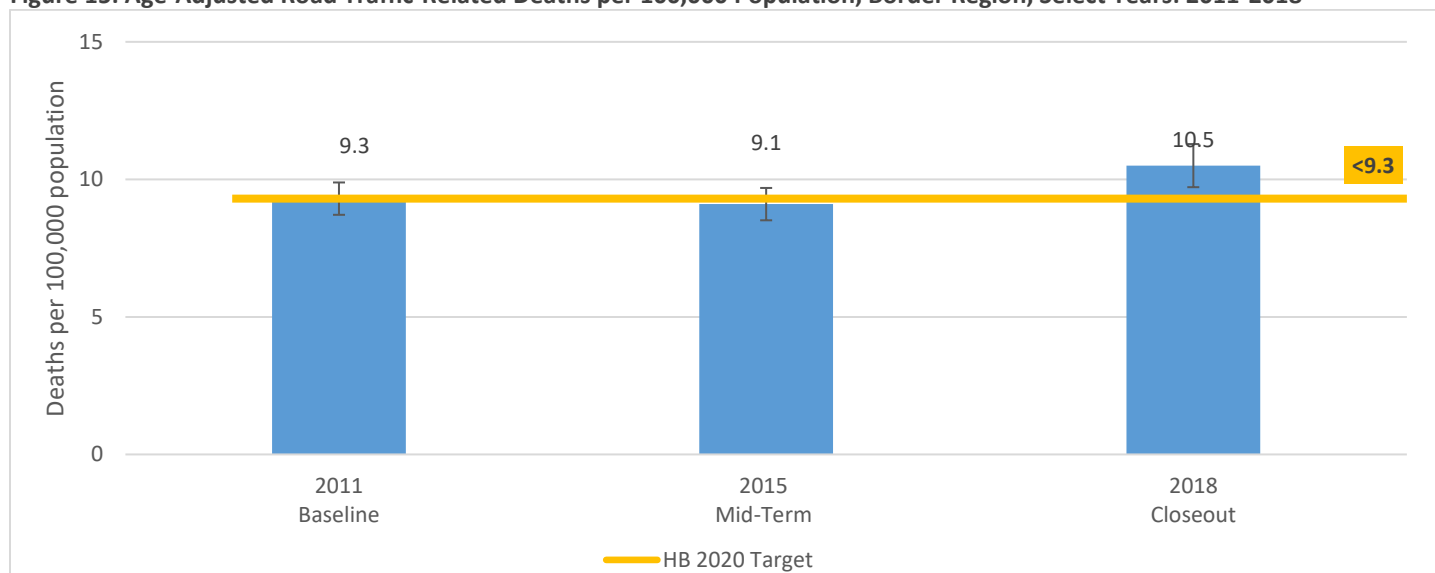
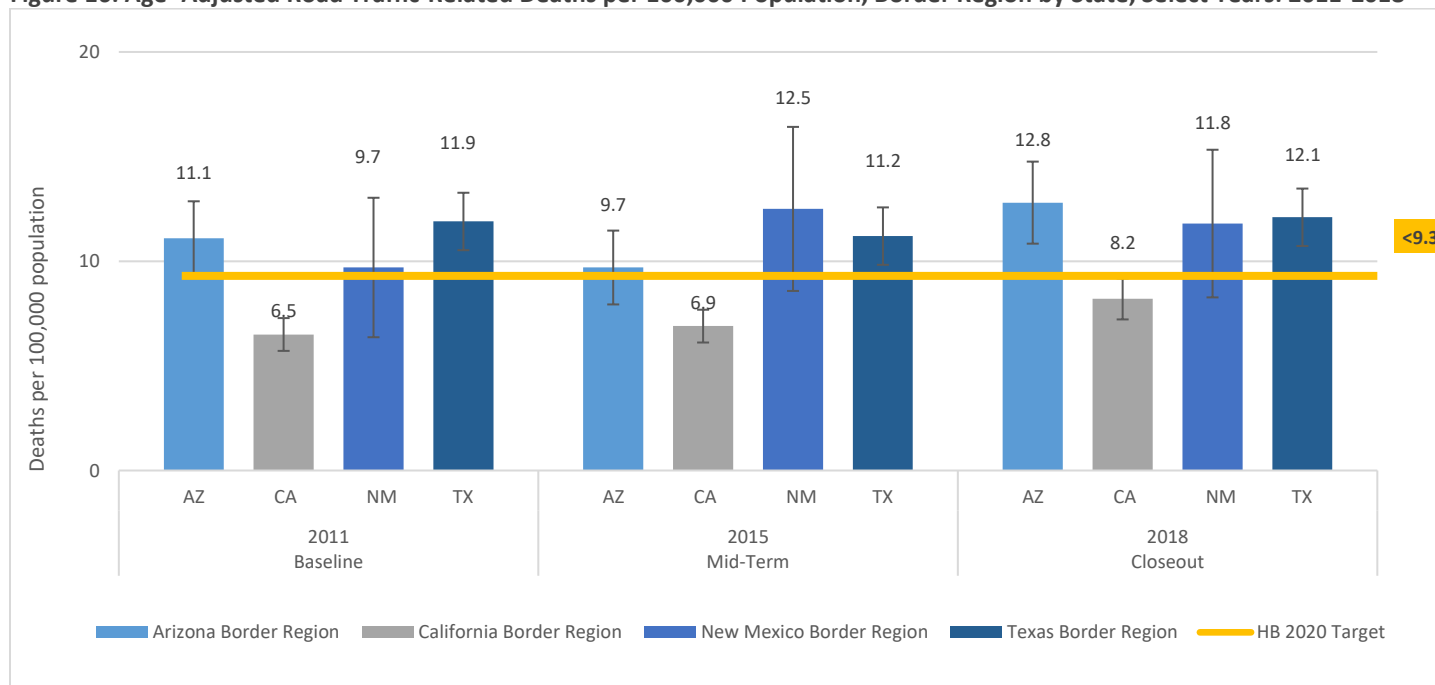


Figure 16: Age-Adjusted Road Traffic-Related Deaths per 100,000 Population, Border Region by State, Select Years: 2011-2018¹



¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Selected findings

- Mortality for the border region
 - The 2011 road traffic-related age-adjusted death rate for the border (i.e., baseline) was 9.3 per 100,000 population. Compared to the baseline, at the mid-term, the age-adjusted border rate decreased minimally by 2.2% deaths (i.e., 9.1 per 100,000). (Figure 15; Table 15)
 - However, compared to the baseline, for the 2018 closeout period, the death rate associated with road traffic rose significantly ($p=0.02$) by 12.9% (10.5 per 100,000 population). (Figure 15; Table 15)
- Mortality for the border region by state
 - At the baseline and in 2018, the Texas (11.9) and Arizona (11.1) border region reported the highest rate of road traffic-related deaths. California, on the other hand, reported the lowest rate of road traffic deaths for the mid-term and for 2018 (6.9 and 8.2 per 100,000 population, respectively). (Figure 16; Table 16)

Remarks

- The Arizona and Texas border region registered higher death rates associated with traffic. This finding highlights the need to examine the origin further, as well as to consider including this objective for follow-up in the HB 2030 report. Additional focus needed to determine if disparity of road traffics deaths are associated with age, gender or race/ethnicity. However, there is a need to conduct further research on this topic in order to outline the HB 2030 approach. [13]

More Information

- Data source for this Health Issue were from the CDC WONDER Online Database. [6]

Section 2

The following section provides a glimpse of the objectives that cannot be measured due to lack of baseline data, data availability throughout the years at the Border, or methodological issues.

HB 2020 Priority Area: Chronic & Degenerative Disease

- Health Issue 8: Asthma

HB 2020 Priority Area: Maternal & Child Health

- Health Issue 9: Maternal Mortality

HB 2020 Priority Area: Infectious Disease

- Health Issue 10: Gonorrhea
- Health Issue 11: Congenital Syphilis

Health Issue 8: Asthma

Goal: Reduce asthma hospitalization rate by 25%

Profile of the Objective

- Not measurable as baseline data were unavailable for 2011. Data were available only for the combined years of 2013-2015.

Figure 17: Age and Sex Adjusted Asthma Discharges per 100,000 Population, Border Community Hospitals: 2013-2015¹

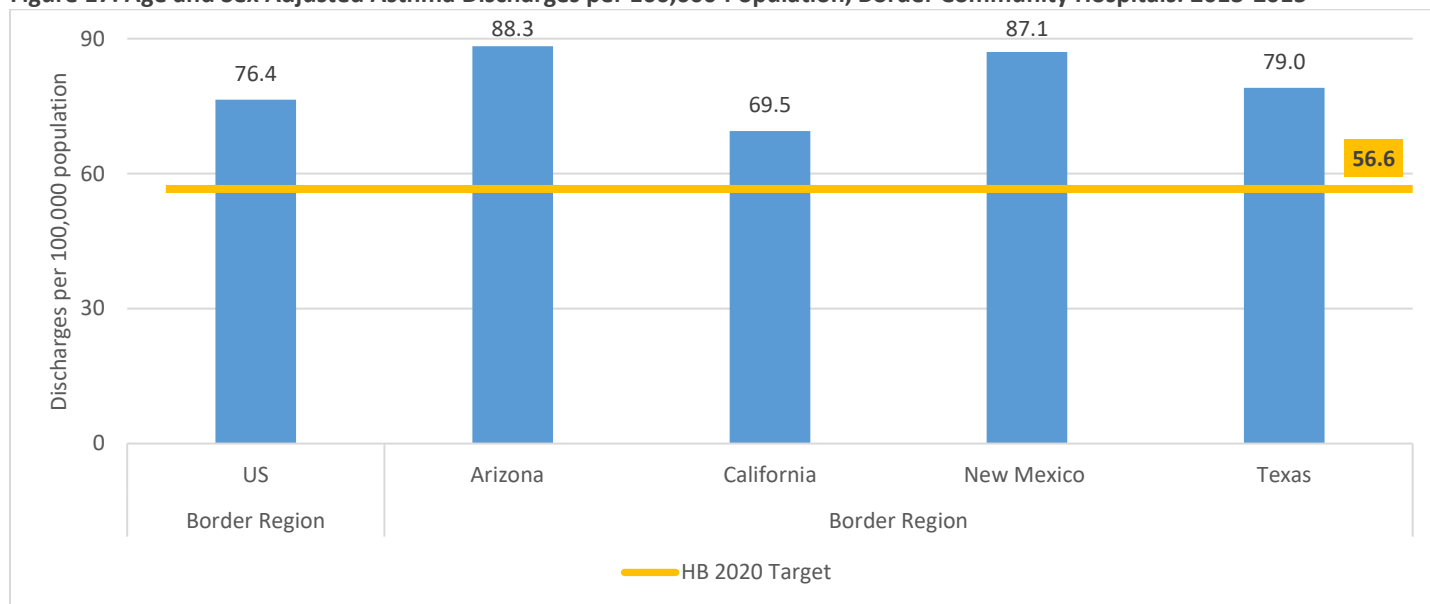
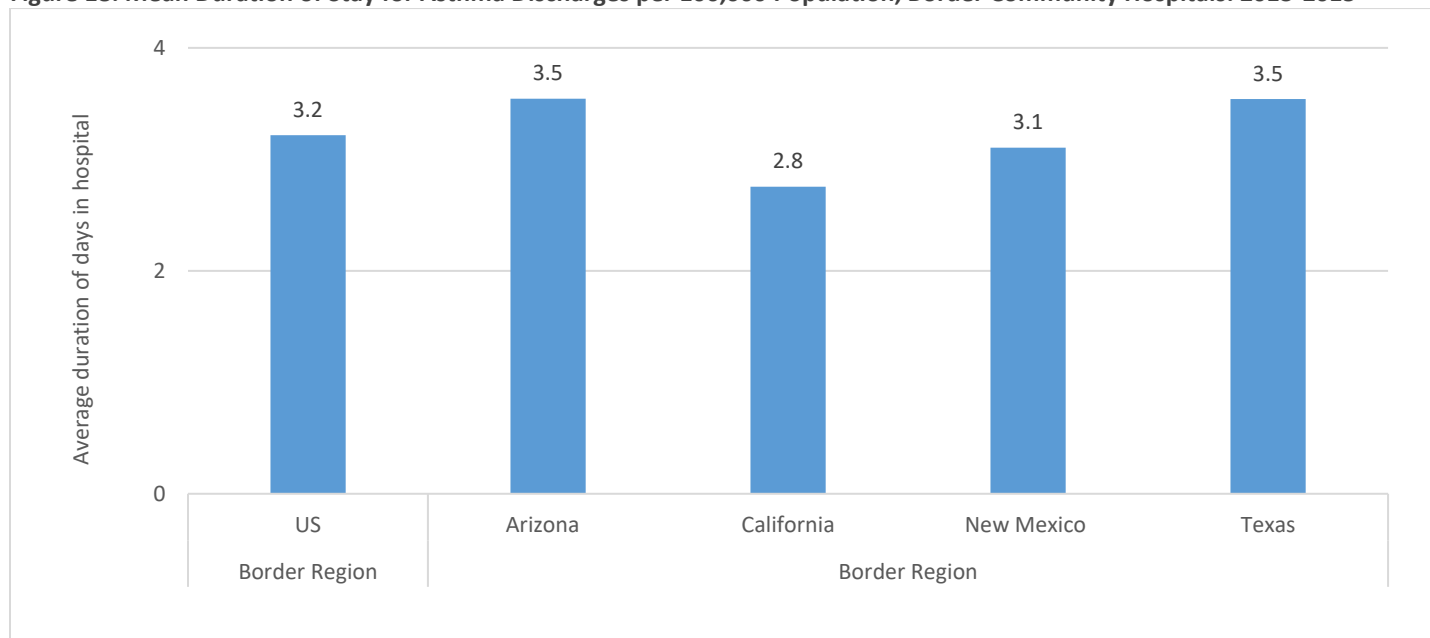


Figure 18: Mean Duration of Stay for Asthma Discharges per 100,000 Population, Border Community Hospitals: 2013-2015¹



¹ Home, Healthcare Cost and Utilization Project (HCUP), " Agency for Healthcare Research and Quality, 2020. [Online]. Available: www.hcup-us.ahrq.gov/home.jsp.

Selected findings

- Asthma hospitalization discharges for the border region
 - The 2011 baseline data for asthma hospitalization discharges was not available. For this report, border region data for the 2013-2015 period is presented. The age-sex adjusted discharge rate for asthma hospitalization for the overall border region was 76.4 per 100,000 population. (Figure 17, Table 17)
- Asthma hospitalization discharges for the border region by state
 - The Arizona and New Mexico border regions reported the highest rate of asthma discharges (88.3 and 87.1 per 100,000 population, respectively). The California region reported the lowest asthma discharge rate when compared to the other states in the entire border region (69.5 per 100,000 population). (Figure 18; Table 17)
 - Consistent with the asthma hospitalizations, Arizona reported the highest mean length of stay (3.5 days per 100,000 population) for the border population. (Figure 18; Table 17)

Remarks

- The overall age-sex adjusted estimate provides a clear picture of the community hospital discharges associated with such conditions at the border region, and how the HCUP-net can assist in collecting data for this measure. However, the HCUP-net does not have available the asthma discharge rate by selected age groups, particularly for the children and adolescent population. A recent publication signaled higher rates of asthma hospitalization for children along the border [14]. Notably, this type of profile cannot be distinguished when an overall estimate is based solely on age-sex adjusted calculations.

More Information

- Data source for this Health Issue were from HCUP. [15]

Footnotes

- Due to the transition from ICD-9-CM to ICD-10-CM in October 2015, statistics were calculated with limited 2015 data (only quarter 1-3 of), and available statistics. In addition, only discharge rates are displayed and not the number of discharges. Community-level statistics are from the Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID), based on data collected by individual states and provided to AHRQ by state partners. Weighted national estimates are from the HCUP National (Nationwide) Inpatient Sample (NIS). The ICD 10-CM codes that comprise asthma (128) diagnoses clinical classification software (CCS) categories are 493.00-493.92.

Health Issue 9: Maternal Mortality

Goal: Decrease maternal mortality based on national baseline level

Profile of Objective

- Not Measurable. No data were available for 2011-2017 due to the issue with Death Certification reporting in the US (see information below in remarks).

Selected findings

- Mortality for the border region
 - In 2018, 18 maternal deaths reported along the US border region. [6]
- Mortality for the of border region by state
 - Data not available

Remarks

- Maternal mortality data for the 2011-2017 period for the border region is not available. In the U.S., there was a measurement issue in this period. Specifically, states were encouraged to add a pregnancy checkbox to their death certificates to respond to a problem of underreporting of maternal deaths; however, the states implemented a pregnancy checkbox at different times. Although the addition of the checkbox improved the identification of maternal deaths, in many cases, the checkbox was erroneously marked pregnant or recently pregnant, especially on the certificates of older women. The net effect of these errors was an overestimate of maternal mortality, especially for older women. The staggered implementation and the resulting differences between states made it problematic to perform analyses that included all the states during this period [16] [17]. As the staggered implementation period was coming to an end, NCHS made changes to the coding rules for these deaths for 2018 to mitigate known problems. The result of these changes improved the national statistical reporting of maternal deaths from 2018 going forward [18]. However, such changes did not address the lack of comparability from 2011-2018 and will not necessarily make the data comparable over time between states. NCHS is working diligently to resolve this matter. More information can be found at <https://www.cdc.gov/nchs/maternal-mortality/>

Health Issue 10: Gonorrhea

Goal: Decrease gonorrhea rates among 15-44 years old by 10%¹

Profile of the Objective:

- Not measurable due to data reporting restrictions in the border region for the selected age group. However, border data were available for all ages.
 - Mid-Term (all ages): In 2015, gonorrhea incidence increased by 42.4% (i.e., 83.6 per 100,000 population) in comparison to the baseline.
 - Closeout (all ages): In 2018, the incidence increased by more than 140% (142.8 per 100,000 population).

Figure 19: Gonorrhea Incidence per 100,000 Population, Border Region, Select Years: 2011-2018¹

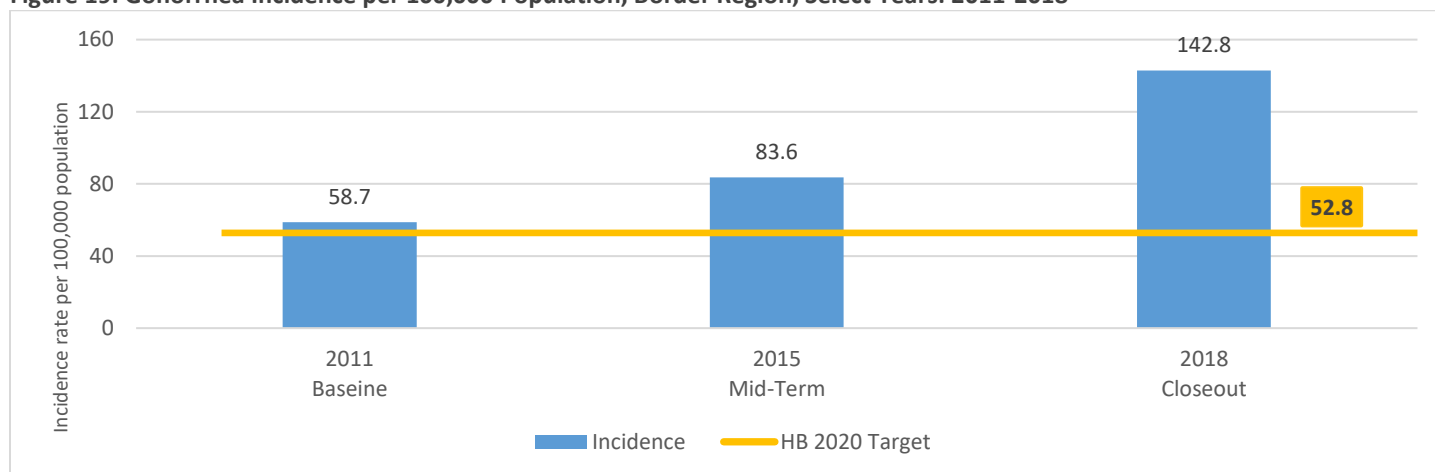
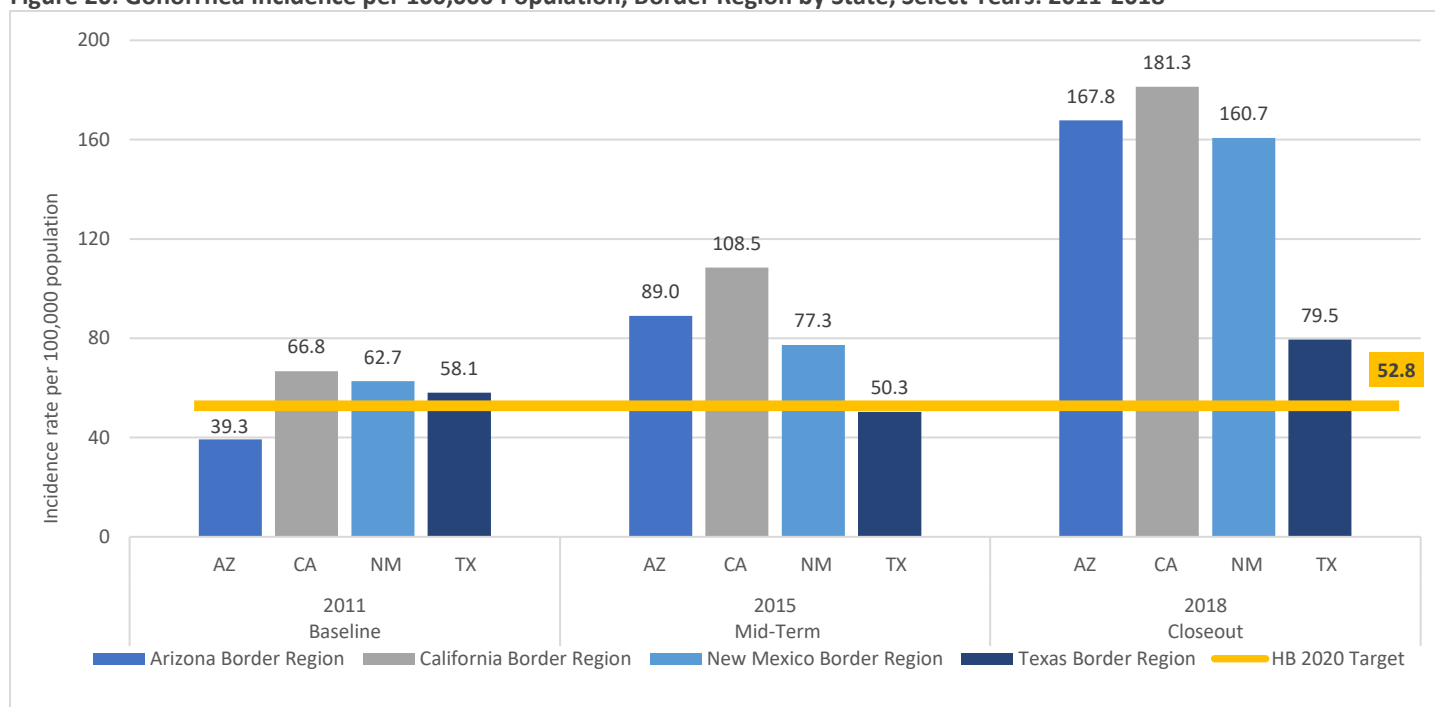


Figure 20: Gonorrhea Incidence per 100,000 Population, Border Region by State, Select Years: 2011-2018¹



¹ "NCHHSTP AtlasPlus," Centers for Disease Control and Prevention, Updated 2019. [Online]. Available: <https://www.cdc.gov/nchhstp/atlas/index.htm>. [Accessed 22 May 2020].

Selected findings

- Incidence rate for the border region
 - In 2011, the rate of reported gonorrhea cases for the border region for all ages was 58.7 per 100,000 population (i.e., baseline). Compared to baseline, at the mid-term, gonorrhea rates increased by more than 40% (42.4%, 58.7 per 100,000 population). In 2018, compared to the baseline, the rates increased by more than 140% in comparison to the baseline (143.3%; 142.8 per 100,000 population). (Figure 19; Table 18)
- Incidence rate for the border region by state
 - In 2018, the California border region had the highest rate of reported gonorrhea cases (181.3 per 100,000 population), followed by Arizona (167.8) New Mexico (160.7), and Texas (79.5). (Figure 20; Table 19)
 - The highest increase since 2011 (39.3 versus 167.8) was reported in the Arizona border region (327%); followed by the California border region with 171.4% increase (66.8 versus 181.3), New Mexico (153.6%), and the Texas border region (58.1 versus 79.5) had the lowest increase in gonorrhea incidence at 36.8%. (Figure 20; Table 19)

Remarks

- Gonorrhea is a very common sexually transmitted disease (STD), especially among young people ages 15-24 years. The 2011-2018 percentage increase in reported gonorrhea rates in the border region (149%) is higher than the national percentage increase (82.6% since the historic low in 2009). Of note, non-border counties in the four border states had higher combined gonorrhea rates each year included in this report compared to border counties (93.4, 145.2, and 192, 8 per 100,000, respectively). In 2018, the Texas border region had a lower rate of reported gonorrhea cases than the border regions in the other states. In general, an increasing gonorrhea case rate may reflect increases in incidence of infection, screening coverage, and use of more sensitive tests, as well as more complete reporting. The specific factors behind the increase in the rate of reported gonorrhea cases in the border region needs to be further investigated. In addition, further analysis is recommended of rates by the target population age group (15-44 years old), gender, and race-ethnicity. It is also important to monitor trends in gonorrhea resistance to antibiotics in the border region.

More Information

- Incidence definition: Incidence rates were calculated by dividing the number of cases for the calendar year by the population for that calendar year from the U.S. Census Bureau and, then multiplying the number by 100,000
- Gonorrhea is a nationally notifiable condition (<https://wwwn.cdc.gov/nndss/conditions/>). Case surveillance data are collected and compiled from reports sent to CDC's Division of STD Prevention by the STD control programs and health departments. Standard errors are not routinely reported with surveillance data since it is not a population sample-based survey or registry like mortality data. Comparisons of case numbers and rates over time and between jurisdictions should be interpreted with caution because of potential differences in STD screening practices, demographic and risk factors, access to health care, and policies and systems for collecting surveillance data. [19]
- Data source for this Health Issue were from Centers for Disease Control and Prevention NCHHSTP AtlasPlus. [20]

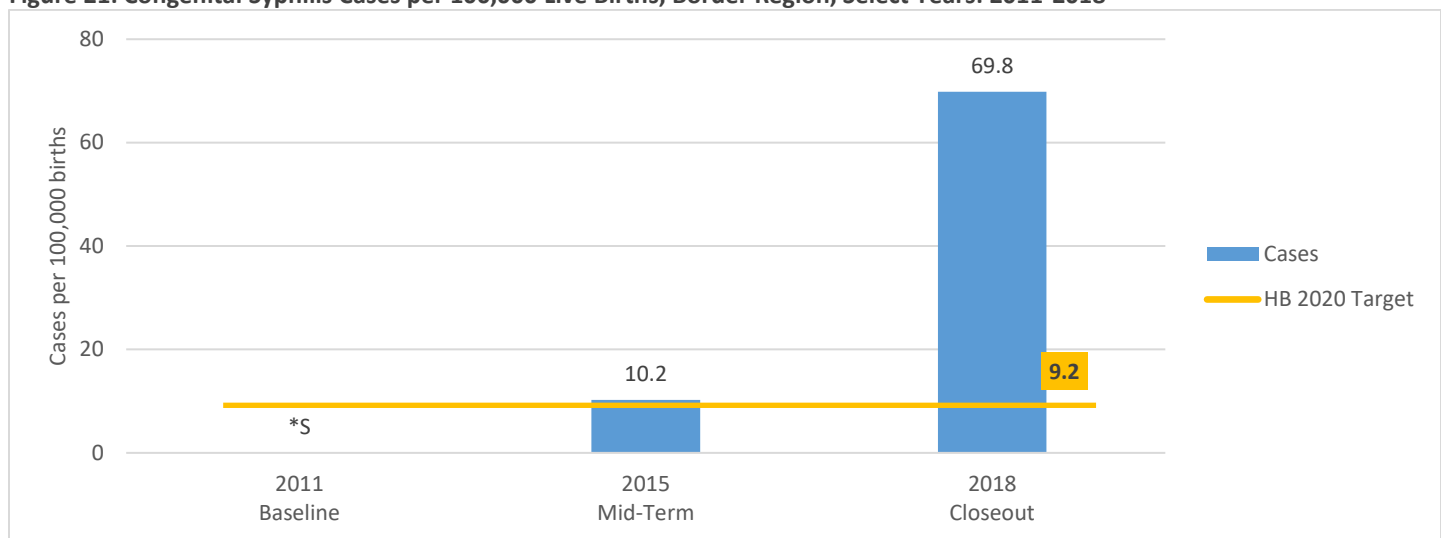
Health Issue 11: Congenital Syphilis

Goal: Reduce by 10% the congenital syphilis rate per 100,000 live births (CDC)

Profile of the Objective:

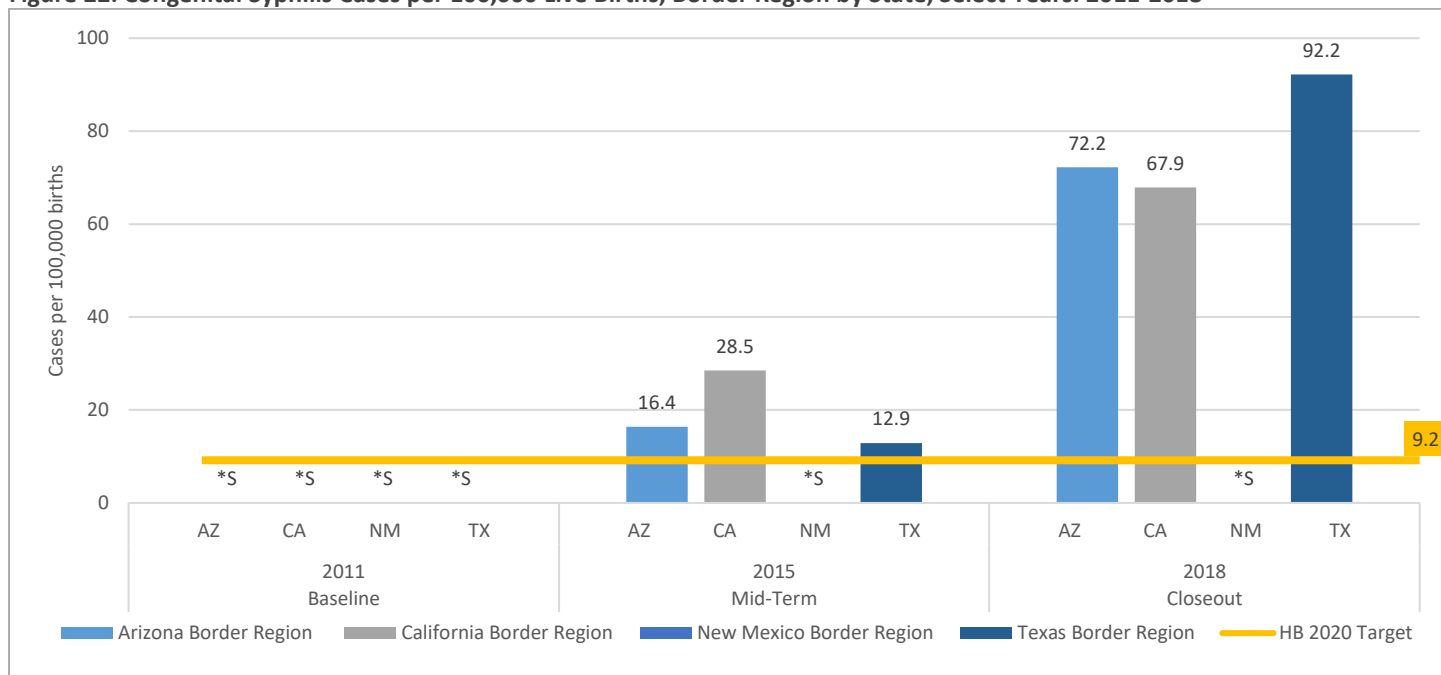
- Mid-term/Closeout: Unmeasurable due to the small number of reported cases and births in several border counties, the congenital syphilis health indicator was suppressed for the 2011 baseline year. However, data was publishable for the mid-term and closeout period.
 - Mid-term: In 2015, the congenital syphilis rate for the border region was 10.2 per 100,000 live births.
 - Closeout: For the 2018 closeout period, the congenital syphilis incidence rate increased by 584.3% from the mid-term (69.8 per 100,000 live births).

Figure 21: Congenital Syphilis Cases per 100,000 Live Births, Border Region, Select Years: 2011-2018¹



*S= Suppressed

Figure 22: Congenital Syphilis Cases per 100,000 Live Births, Border Region by State, Select Years: 2011-2018¹



*S= Suppressed

¹ "NCHHSTP AtlasPlus," Centers for Disease Control and Prevention, Updated 2019. [Online]. Available: <https://www.cdc.gov/nchhstp/atlas/index.htm>. [Accessed 22 May 2020].

Selected findings

- Reported cases for the border region
 - For the closeout period in 2018, 79 cases of congenital syphilis were reported in the border region, representing a rate of 69.8 cases per 100,000 live births. This rate represents a 584.3% increase since 2015 (10.2 cases per 100,000 live births). (Figure 21; Table 20)
- Reported cases for the border region by state
 - The rate of congenital syphilis increased at the closeout period compared with the mid-term. The Texas border region reported the highest increase (615%) in comparison to their 2015 rate (12.9 versus 92.2 cases per 100,000 live birth). The lowest percentage increase of 138%, reported by the California border region, from 28.5 to 67.9 cases per 100,000 live births. (Figure 22; Table 21)

Remarks

- The increase in congenital syphilis cases at the border region is a finding of interest that proposes inclusion for follow-up in 2030 HB. The recommendation is to expand the analysis of congenital syphilis rates to explore disparities by age, gender, and/or race-ethnicity. Since 2012, annual increases in the rates of national congenital syphilis cases have been reported. These national rate increases run parallel with increases in primary and secondary syphilis among all women and those of reproductive age (18-49 years). [19]
 - With significant interest, rates of congenital syphilis in 2015 were found to be lower in the border region compared to the rest of the states. However, in 2018, rates were higher in the New Mexico and Texas border region compared to their respective non-border region (86.8 vs. 29.9; and 112.4 vs. 89.5, respectively)

More information

- Congenital syphilis is a condition caused by the bacteria *Treponema pallidum*, passed from mother to child during fetal development or at birth. A wide spectrum of severity exists, from inapparent infection to severe cases that are clinically apparent at birth. [21]
- Congenital syphilis is a nationally notifiable condition. Case surveillance data are collected and compiled from reports sent to CDC's Division of STD Prevention by the STD control programs and health departments. Natality data from the National Center for Health Statistics (NCHS) was used to calculate congenital syphilis rates per 100,000 live births. Standard errors are not routinely reported with surveillance data since it is not a population sample-based survey or registry like mortality data, and thus the underlying population distribution is not clearly determined
- Data source for this Health Issue were from the Centers for Disease Control and Prevention NCHHSTP AtlasPlus. [20]

Footnotes

S= Suppressed data due to small number of cases in multiple border counties. No data available.

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Appendices

Appendix A: Review of Healthy Border 2020 Objectives



Appendix B: ICD-10 Codes







Appendix C: Tables

Appendix D: Supplemental Graphs

The appendices contain additional documentation that enhance the findings presented in this report. For example, the appendices contain a table that allows to visually identify (i.e., Appendix A) the health issue by priority area, the target and the closeout value and movement from the baseline value- if data was available. The appendices also contain a series of additional tables and figures (i.e., Appendix A and D) that augment the data presented in previous sections providing data for all the years available during the HB 2020 program and by cluster of border counties by each border state. It also contains the International classification of diseases (ICD-10) selected codes used for the HB2030 (i.e., Appendix B). Users can find this information quite valuable for the sake of replicability, and consistency with future programs or health initiatives.

Appendix A: Review of Healthy Border 2020 Objectives

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
Chronic & Degenerative Disease	Obesity	Increase fruit and vegetable intake	Not Measurable (unknown baseline value)	UNKNOWN (BRFSS 2011)				
		Increase physical activity	Not Measurable (unknown baseline value)	UNKNOWN (BRFSS 2011)				
		Increase breastfeeding	Not Measurable (unknown baseline value)	UNKNOWN (2011 PRAMS, birth certificates)				
		BMI for women of reproductive age (20 years and older)	Not Measurable	N/A				
		BMI for older adults-age adjusted	Not Measurable	N/A				
		Oversampling of proposed border BRFSS in two consecutive years	Not Measurable	N/A				
	Diabetes	Maintain the mortality rate to 2011 baseline	Measurable	23.8 (2011, CDC)	25.3 (6.3% increase) 	23.8	26.1 (9.7% increase) 	9.7% increase
		Improve screening in people 20 years of age and older by 10%	Not Measurable (unknown baseline value)					
		50% of patients receive diabetes treatment controlled within normal limits as measured by A1C	Not Measurable (unless baseline value is found)	UNKNOWN				

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
	Heart Disease	Reduce the proportion of diabetic adults with A1C >9%	Not Measurable (unless baseline value is found)	UNKNOWN (NHANES)				
		Maintain mortality rate to 2011 baseline	Measurable	99.8 (2011, CDC)	88.9 	99.8	83.1 	16.7% decrease
		Undergoing blood pressure management via medication (BRFSS or NHANES-U.S.; at least 50% of patients undergoing high blood pressure management that are able to control at < 140/90mmhg-MX)	Not Measurable (unless baseline value is found)	UNKNOWN (BRFSS or NHANES)				
	Cervical Cancer	Decrease the mortality in women 25 years and older by 20%	Measurable	3.6 (2011 CDC)	4.5 (25% increase) 	2.9	3.4 (5.6% decrease) 	5.6% decrease
		*Maintain screening for women 25-64 years (MX) at 80%	Not Measurable (unless baseline value is found)	UNKNOWN				
		Screen for women 21 years and older	Not Measurable (unless baseline value is found)	UNKNOWN				
		Maintain the coverage of HPV vaccinations for girls 9–11 years at 90%	Not Measurable (unless baseline value is found)	UNKNOWN				
	Breast Cancer	Maintain mortality rate (2011 baseline)	Measurable	19.3 (2011 CDC)	18.9 	19.3	18.8 	2.6% decrease

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
		Improve screening by 10% in women 40 years of age and older (2011 baseline)	Not Measurable (unless baseline value is found)	UNKNOWN				
	Asthma	Reduce asthma hospitalization rates by 25%	Not Measurable (unless baseline value is found)	UNKNOWN (HCUP)				
Infectious Disease	Tuberculosis (TB)	Assist with defined strategies to decrease the incidence of pulmonary TB in 1% annually (2011 baseline)	Not Measurable (unless baseline value is found)	UNKNOWN				
		Reduce the incidence of pulmonary TB (PTB) by 1% annually (2011 baseline)	Not Measurable (unless baseline value is found)	UNKNOWN				
		Support strategies to achieve and maintain an 85% cure rate of PTB cases that initiate treatment	Not Measurable (unless baseline value is found)	UNKNOWN				
		Provide leadership, venue, focus for discussion	Not Measurable (unless baseline value is found)	UNKNOWN				
	HIV-PTB	Reduce HIV incidence by 1% (2011 baseline)	Not Measurable (unless baseline value is found)	UNKNOWN				





Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
		Screen for HIV diagnosis in patients with pulmonary TB and vice versa; screen for pulmonary TB in patients with HIV for new cases (new diagnosis)	Not Measurable (unless baseline value is found)	UNKNOWN				
		Support the detection and reference of returning migrants with HIV/AIDS	Not Measurable (unless baseline value is found)	UNKNOWN				
		Align BHC actions with national and state programs aimed at HIV/AIDS and PTB prevention and care	Not Measurable (unless baseline value is found)	UNKNOWN				
		Develop a policy proposal focused on HIV/AIDS and TBP prevention and care	Not Measurable (unless baseline value is found)	UNKNOWN				
	Gonorrhea	Decrease gonorrhea rates among 15–44-year old by 10%	Not Measurable (unless baseline value is found)	UNKNOWN				
	Congenital Syphilis	Perform the VDRL test for 100% of pregnant women receiving medical services	Not Measurable (unless baseline value is found)	UNKNOWN				
		Reduce the congenital syphilis rate by 10% per 100,000 live births (CDC)	Not Measurable (unless baseline value is found)	UNKNOWN				

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
		Provide leadership, venue, focus for discussion	Not Measurable (unless baseline value is found)	UNKNOWN				
	Hepatitis	Decrease hepatitis A incidence by 10% US and 1% MX (2011 baseline)	Not Measurable (unless baseline value is found)	UNKNOWN				
		Decrease hepatitis B incidence by 10% US and 1% MX (2011 baseline)	Not Measurable (unless baseline value is found)	UNKNOWN				
		Promote binational reporting of select infectious disease cases	Not Measurable (unless baseline value is found)	UNKNOWN				
		Educate healthcare providers on current treatment guidelines for communicable diseases	Not Measurable (unless baseline value is found)	UNKNOWN				
		Facilitate access to recommended immunizations for underserved populations	Not Measurable (unless baseline value is found)	UNKNOWN				
		Educate the public on signs/symptoms and prevention strategies for common communicable diseases	Not Measurable (unless baseline value is found)	UNKNOWN				
Maternal & Child Health	Teen Pregnancy	Provide emergency obstetric care services 24 hours, 365 days	Not Measurable (unless baseline value is found)	UNKNOWN				

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
		Maintain maternal mortality rate (2011 baseline)	Not Measurable (unless baseline value is found)	UNKNOWN				
		Maintain pregnancy-related deaths	Not Measurable (unless baseline value is found)	UNKNOWN				
		Reduce the number of pregnancies in 15–19-year-old teenagers	Not Measurable (unless baseline value is found)	UNKNOWN				
		Increase teen pregnancy prevention through adolescent/ adult communication programs that can improve reproductive health dialogue	Not Measurable (unless baseline value is found)	UNKNOWN				
		Increase access to prenatal vitamins and supplements	Not Measurable (unless baseline value is found)	UNKNOWN				
		Increase access to prenatal care including appropriate screenings especially in rural areas	Not Measurable (unless baseline value is found)	UNKNOWN				
		Develop community-wide campaigns to increase awareness of the benefits of receiving health care in early pregnancy	Not Measurable (unless baseline value is found)	UNKNOWN				

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
		Encourage the development of healthy behaviors in women of reproductive age	Not Measurable (unless baseline value is found)	UNKNOWN				
		Expand family planning programs, including provision of confidential services to female and male teens	Not Measurable (unless baseline value is found)	UNKNOWN				
		Expand comprehensive sexual education programs	Not Measurable (unless baseline value is found)	UNKNOWN				
	Neural Tube Defects	Study risk factors involved in the occurrence of these diseases	Not Measurable (unless baseline value is found)	UNKNOWN				
		Develop community-wide campaigns to increase use of supplements/foods containing folic acid.	Not Measurable (unless baseline value is found)	UNKNOWN				
		Increase access to prenatal vitamins and supplements	Not Measurable (unless baseline value is found)	UNKNOWN				
		Encourage healthy eating, including the consumption of foods rich in folic acid and vitamin B12	Not Measurable (unless baseline value is found)	UNKNOWN				
	Maternal Mortality	Decrease mortality based on national baseline ratio in border counties	Not Measurable (unless baseline value is found)	UNKNOWN				

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
		Strengthen the epidemiological surveillance system for maternal mortality	Not Measurable (unless baseline value is found)	UNKNOWN				
		Increase access to prenatal care including appropriate screenings, especially in rural areas	Not Measurable (unless baseline value is found)	UNKNOWN				
		Develop community-wide campaigns to increase awareness of the benefits of receiving health care in early pregnancy	Not Measurable (unless baseline value is found)	UNKNOWN				
		Encourage development of healthy behaviors in women of reproductive age	Not Measurable (unless baseline value is found)	UNKNOWN				
Mental Health	Addiction	Reduce the prevalence of first time illegal drug use in the 12-17 year old population by 10%	Not Measurable (unless baseline value is found)	UNKNOWN				
		Reduce illicit drug use	Not Measurable (unless baseline value is found)	UNKNOWN				
	Depression	Maintain or reduce the prevalence of depression (2011 baseline and US only)	Not Measurable (unless baseline value is found)					
	Violence (all types)	Increase medical and psychological care provided by victims of severe family violence by 10%	Not Measurable (unless baseline value is found)	UNKNOWN				

Priority Area	Health Issue	HB 2020 Objective Description	Objective Type	Baseline Value and Data Source (2011)	Mid-term value (2015)	2020 Target	Closeout value (2018)	Movement from Baseline
Injury Prevention	Mortality & Road Traffic Injuries	Reduce unintentional injury deaths	Measurable	34.0 (2011, CDC)	34.4 (1.18% increase) 	< 34.0	38.1 (12% increase) 	12% increase
		Increase seat belt use	Not Measurable (unless baseline value is found)	UNKNOWN				
		Reduce mortality rate of road traffic injuries per 1,000 residents	Not Measurable (unless baseline value is found)	UNKNOWN				
		Reduce road traffic-related deaths per 100,000 populations	Measurable	9.3 (2011, CDC)	9.1 	< 9.3	10.5 (13.3% increase) 	13.3% increase
	Mental Health	Reduce alcohol consumption	Not Measurable (unless baseline value is found)	UNKNOWN				
	Disability	Reduce disabilities caused by road traffic injuries (US only)	Not Measurable (unless baseline value is found)	UNKNOWN				
	Increased urgent care services	Reduce hospitalizations for nonfatal injuries	Not Measurable (unless baseline value is found)	UNKNOWN				
		Reduce hospitalizations for nonfatal traumatic brain injuries	Not Measurable (unless baseline value is found)	UNKNOWN				

Appendix B: ICD-10 Codes

Health Issue	ICD-10 Codes	Weblink
Overall Mortality	All ICD-10 reports of underlying causes of death.	https://wonder.cdc.gov/controller/save/d/D141/D75F344
Diabetes Mortality	ICC-10 E-10-E14	https://wonder.cdc.gov/controller/save/d/D141/D67F204
Heart Disease Mortality	I00-I09,I11,I13, I20-I51 (Disease of the Heart)	
Cervical Cancer	Women \geq 25 years C53.0 (Endocervix - Malignant neoplasms); C53.1 (Exocervix - Malignant neoplasms); C53.8 (Overlapping lesion of cervix uteri - Malignant neoplasms); C53.9 (Cervix uteri, unspecified - Malignant neoplasms)	https://wonder.cdc.gov/controller/save/d/D141/D67F218
Breast Cancer	Women only C50.0 (Nipple and areola - Malignant neoplasms); C50.1 (Central portion of breast - Malignant neoplasms); C50.2 (Upper-inner quadrant of breast - Malignant neoplasms); C50.3 (Lower-inner quadrant of breast - Malignant neoplasms); C50.4 (Upper-outer quadrant of breast - Malignant neoplasms); C50.5 (Lower-outer quadrant of breast - Malignant neoplasms); C50.6 (Axillary tail of breast - Malignant neoplasms); C50.8 (Overlapping lesion of breast - Malignant neoplasms); C50.9 (Breast, unspecified - Malignant neoplasms)	https://wonder.cdc.gov/controller/save/d/D141/D67F218
Maternal mortality	A34 (Obstetrical tetanus) O00-O07 (Pregnancy with abortive outcome) O10-O16 (Oedema, proteinuria and hypertensive disorders in pregnancy, childbirth and the puerperium) O20-O29 (Other maternal disorders predominantly related to pregnancy) O30-O48 (Maternal care related to the fetus and amniotic cavity and possible delivery problems) O60-O75 (Complications of labour and delivery) O85-O92 (Complications predominantly related to the puerperium) O95 (Obstetric death of unspecified cause) O98 (Maternal infectious and parasitic diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium) O99 (Other maternal diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium)	
Unintentional Injury	V01-V99 (Transport accidents); W00-X59 (Other external causes of accidental injury); X85 (Assault by drugs, medicaments and biological substances); X86 (Assault by corrosive substance)	https://wonder.cdc.gov/controller/save/d/D141/D75F415
Road Traffic-related	V02.1 (Pedestrian injured in collision with two- or three-wheeled motor vehicle, traffic accident); V02.9 (Unspecified whether traffic or nontraffic accident); V03.1 (Pedestrian injured in collision with car, pick-up truck or van, traffic accident); V03.9 (Unspecified whether traffic or nontraffic accident); V04.1 (Pedestrian injured in collision with heavy transport vehicle or bus, traffic accident); V04.9 (Unspecified whether traffic or nontraffic accident); V09.2 (Pedestrian injured in traffic accident involving other and unspecified motor vehicles); V12.3 (Pedal cyclist injured in collision with two- or three-wheeled motor vehicle, person injured while boarding or alighting); V12.4 (Pedal cyclist injured in collision with two- or three-wheeled motor vehicle, driver injured in traffic accident); V12.5 (Pedal cyclist injured in collision with two- or three-wheeled motor vehicle,	https://wonder.cdc.gov/controller/save/d/D141/D75F586

	<p>passenger injured in traffic accident); V12.9 (Pedal cyclist injured in collision with two- or three-wheeled motor vehicle, unspecified pedal cyclist injured in traffic accident); V13.3 (Pedal cyclist injured in collision with car, pick-up truck or van, person injured while boarding or alighting); V13.4 (Pedal cyclist injured in collision with car, pick-up truck or van, driver injured in traffic accident); V13.5 (Pedal cyclist injured in collision with car, pick-up truck or van, passenger injured in traffic accident); V13.9 (Pedal cyclist injured in collision with car, pick-up truck or van, unspecified pedal cyclist injured in traffic accident); V14.3 (Pedal cyclist injured in collision with heavy transport vehicle or bus, person injured while boarding or alighting); V14.4 (Pedal cyclist injured in collision with heavy transport vehicle or bus, driver injured in traffic accident); V14.5 (Pedal cyclist injured in collision with heavy transport vehicle or bus, passenger injured in traffic accident); V14.9 (Pedal cyclist injured in collision with heavy transport vehicle or bus, unspecified pedal cyclist injured in traffic accident); V19.4 (Driver injured in collision with other and unspecified motor vehicles in traffic accident); V19.5 (Passenger injured in collision with other and unspecified motor vehicles in traffic accident); V19.6 (Unspecified pedal cyclist injured in collision with other and unspecified motor vehicles in traffic accident); V20.3 (Motorcycle rider injured in collision with pedestrian or animal, person injured while boarding or alighting); V20.4 (Motorcycle rider injured in collision with pedestrian or animal, driver injured in traffic accident); V20.5 (Motorcycle rider injured in collision with pedestrian or animal, passenger injured in traffic accident); V20.9 (Motorcycle rider injured in collision with pedestrian or animal, unspecified motorcycle rider injured in traffic accident); V21.3 (Motorcycle rider injured in collision with pedal cycle, person injured while boarding or alighting); V21.4 (Motorcycle rider injured in collision with pedal cycle, driver injured in traffic accident); V21.5 (Motorcycle rider injured in collision with pedal cycle, passenger injured in traffic accident); V21.9 (Motorcycle rider injured in collision with pedal cycle, unspecified motorcycle rider injured in traffic accident); V22.3 (Motorcycle rider injured in collision with two- or three-wheeled motor vehicle, person injured while boarding or alighting); V22.4 (Motorcycle rider injured in collision with two- or three-wheeled motor vehicle, driver injured in traffic accident); V22.5 (Motorcycle rider injured in collision with two- or three-wheeled motor vehicle, passenger injured in traffic accident); V22.9 (Motorcycle rider injured in collision with two- or three-wheeled motor vehicle, unspecified motorcycle rider injured in traffic accident); V23.3 (Motorcycle rider injured in collision with car, pick-up truck or van, person injured while boarding or alighting); V23.4 (Motorcycle rider injured in collision with car, pick-up truck or van, driver injured in traffic accident); V23.5 (Motorcycle rider injured in collision with car, pick-up truck or van, passenger injured in traffic accident); V23.9 (Motorcycle rider injured in collision with car, pick-up truck or van, unspecified motorcycle rider injured in traffic accident); V24.3 (Motorcycle rider injured in collision with heavy transport vehicle or bus, person injured while boarding or alighting); V24.4 (Motorcycle rider injured in collision with heavy transport vehicle or bus, driver injured in traffic accident); V24.5 (Motorcycle rider injured in collision with heavy transport vehicle or bus, passenger injured in traffic accident); V24.9 (Motorcycle rider injured in collision with heavy transport vehicle or bus, unspecified motorcycle rider injured in traffic accident); V25.3 (Motorcycle rider injured in collision with railway train or railway vehicle,</p>	
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	<p>person injured while boarding or alighting); V25.4 (Motorcycle rider injured in collision with railway train or railway vehicle, driver injured in traffic accident); V25.5 (Motorcycle rider injured in collision with railway train or railway vehicle, passenger injured in traffic accident); V25.9 (Motorcycle rider injured in collision with railway train or railway vehicle, unspecified motorcycle rider injured in traffic accident); V26.3 (Motorcycle rider injured in collision with other nonmotor vehicle, person injured while boarding or alighting); V26.4 (Motorcycle rider injured in collision with other nonmotor vehicle, driver injured in traffic accident); V26.5 (Motorcycle rider injured in collision with other nonmotor vehicle, passenger injured in traffic accident); V26.9 (Motorcycle rider injured in collision with other nonmotor vehicle, unspecified motorcycle rider injured in traffic accident); V27.3 (Motorcycle rider injured in collision with fixed or stationary object, person injured while boarding or alighting); V27.4 (Motorcycle rider injured in collision with fixed or stationary object, driver injured in traffic accident); V27.5 (Motorcycle rider injured in collision with fixed or stationary object, passenger injured in traffic accident); V27.9 (Motorcycle rider injured in collision with fixed or stationary object, unspecified motorcycle rider injured in traffic accident); V28.3 (Motorcycle rider injured in noncollision transport accident, person injured while boarding or alighting); V28.4 (Motorcycle rider injured in noncollision transport accident, driver injured in traffic accident); V28.5 (Motorcycle rider injured in noncollision transport accident, passenger injured in traffic accident); V28.9 (Motorcycle rider injured in noncollision transport accident, unspecified motorcycle rider injured in traffic accident); V29.4 (Driver injured in collision with other and unspecified motor vehicles in traffic accident); V29.5 (Passenger injured in collision with other and unspecified motor vehicles in traffic accident); V29.6 (Unspecified motorcycle rider injured in collision with other and unspecified motor vehicles in traffic accident); V29.8 (Motorcycle rider [any] injured in other specified transport accidents); V29.9 (Motorcycle rider [any] injured in unspecified traffic accident); V30.4 (Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal, person injured while boarding or alighting); V30.5 (Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal, driver injured in traffic accident); V30.6 (Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal, passenger injured in traffic accident); V30.7 (Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal, person on outside of vehicle injured in traffic accident); V30.9 (Occupant of three-wheeled motor vehicle injured in collision with pedestrian or animal, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V31.4 (Occupant of three-wheeled motor vehicle injured in collision with pedal cycle, person injured while boarding or alighting); V31.5 (Occupant of three-wheeled motor vehicle injured in collision with pedal cycle, driver injured in traffic accident); V31.6 (Occupant of three-wheeled motor vehicle injured in collision with pedal cycle, passenger injured in traffic accident); V31.7 (Occupant of three-wheeled motor vehicle injured in collision with pedal cycle, person on outside of vehicle injured in traffic accident); V31.9 (Occupant of three-wheeled motor vehicle injured in collision with pedal cycle, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V32.4 (Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle, person injured while boarding or alighting); V32.5</p>	
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	<p>(Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle, driver injured in traffic accident); V32.6 (Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle, passenger injured in traffic accident); V32.7 (Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle, person on outside of vehicle injured in traffic accident); V32.9 (Occupant of three-wheeled motor vehicle injured in collision with two- or three-wheeled motor vehicle, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V33.4 (Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van, person injured while boarding or alighting); V33.5 (Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van, driver injured in traffic accident); V33.6 (Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van, passenger injured in traffic accident); V33.7 (Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van, person on outside of vehicle injured in traffic accident); V33.9 (Occupant of three-wheeled motor vehicle injured in collision with car, pick-up truck or van, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V34.4 (Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus, person injured while boarding or alighting); V34.5 (Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus, driver injured in traffic accident); V34.6 (Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus, passenger injured in traffic accident); V34.7 (Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus, person on outside of vehicle injured in traffic accident); V34.9 (Occupant of three-wheeled motor vehicle injured in collision with heavy transport vehicle or bus, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V35.4 (Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle, person injured while boarding or alighting); V35.5 (Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle, driver injured in traffic accident); V35.6 (Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle, passenger injured in traffic accident); V35.7 (Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle, person on outside of vehicle injured in traffic accident); V35.9 (Occupant of three-wheeled motor vehicle injured in collision with railway train or railway vehicle, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V36.4 (Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle, person injured while boarding or alighting); V36.5 (Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle, driver injured in traffic accident); V36.6 (Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle, passenger injured in traffic accident); V36.7 (Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle, person on outside of vehicle injured in traffic accident); V36.9 (Occupant of three-wheeled motor vehicle injured in collision with other nonmotor vehicle, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V37.4 (Occupant of three-wheeled motor vehicle injured in collision</p>	
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	<p>with fixed or stationary object, person injured while boarding or alighting); V37.5 (Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object, driver injured in traffic accident); V37.6 (Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object, passenger injured in traffic accident); V37.7 (Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object, person on outside of vehicle injured in traffic accident); V37.9 (Occupant of three-wheeled motor vehicle injured in collision with fixed or stationary object, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V38.4 (Occupant of three-wheeled motor vehicle injured in noncollision transport accident, person injured while boarding or alighting); V38.5 (Occupant of three-wheeled motor vehicle injured in noncollision transport accident, driver injured in traffic accident); V38.6 (Occupant of three-wheeled motor vehicle injured in noncollision transport accident, passenger injured in traffic accident); V38.7 (Occupant of three-wheeled motor vehicle injured in noncollision transport accident, person on outside of vehicle injured in traffic accident); V38.9 (Occupant of three-wheeled motor vehicle injured in noncollision transport accident, unspecified occupant of three-wheeled motor vehicle injured in traffic accident); V39.4 (Driver injured in collision with other and unspecified motor vehicles in traffic accident); V39.5 (Passenger injured in collision with other and unspecified motor vehicles in traffic accident); V39.6 (Unspecified occupant of three-wheeled motor vehicle injured in collision with other and unspecified motor vehicles in traffic accident); V39.8 (Occupant [any] of three-wheeled motor vehicle injured in other specified transport accidents); V39.9 (Occupant [any] of three-wheeled motor vehicle injured in unspecified traffic accident); V40.4 (Car occupant injured in collision with pedestrian or animal, person injured while boarding or alighting); V40.5 (Car occupant injured in collision with pedestrian or animal, driver injured in traffic accident); V40.6 (Car occupant injured in collision with pedestrian or animal, passenger injured in traffic accident); V40.7 (Car occupant injured in collision with pedestrian or animal, person on outside of vehicle injured in traffic accident); V40.9 (Car occupant injured in collision with pedestrian or animal, unspecified car occupant injured in traffic accident); V41.4 (Car occupant injured in collision with pedal cycle, person injured while boarding or alighting); V41.5 (Car occupant injured in collision with pedal cycle, driver injured in traffic accident); V41.6 (Car occupant injured in collision with pedal cycle, passenger injured in traffic accident); V41.7 (Car occupant injured in collision with pedal cycle, person on outside of vehicle injured in traffic accident); V41.9 (Car occupant injured in collision with pedal cycle, unspecified car occupant injured in traffic accident); V42.4 (Car occupant injured in collision with two- or three-wheeled motor vehicle, person injured while boarding or alighting); V42.5 (Car occupant injured in collision with two- or three-wheeled motor vehicle, driver injured in traffic accident); V42.6 (Car occupant injured in collision with two- or three-wheeled motor vehicle, passenger injured in traffic accident); V42.7 (Car occupant injured in collision with two- or three-wheeled motor vehicle, person on outside of vehicle injured in traffic accident); V42.9 (Car occupant injured in collision with two- or three-wheeled motor vehicle, unspecified car occupant injured in traffic accident); V43.4 (Car occupant injured in collision with car, pick-up truck or van, person injured while boarding or alighting); V43.5 (Car occupant injured in collision</p>	
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	<p>with car, pick-up truck or van, driver injured in traffic accident); V43.6 (Car occupant injured in collision with car, pick-up truck or van, passenger injured in traffic accident); V43.7 (Car occupant injured in collision with car, pick-up truck or van, person on outside of vehicle injured in traffic accident); V43.9 (Car occupant injured in collision with car, pick-up truck or van, unspecified car occupant injured in traffic accident); V44.4 (Car occupant injured in collision with heavy transport vehicle or bus, person injured while boarding or alighting); V44.5 (Car occupant injured in collision with heavy transport vehicle or bus, driver injured in traffic accident); V44.6 (Car occupant injured in collision with heavy transport vehicle or bus, passenger injured in traffic accident); V44.7 (Car occupant injured in collision with heavy transport vehicle or bus, person on outside of vehicle injured in traffic accident); V44.9 (Car occupant injured in collision with heavy transport vehicle or bus, unspecified car occupant injured in traffic accident); V45.4 (Car occupant injured in collision with railway train or railway vehicle, person injured while boarding or alighting); V45.5 (Car occupant injured in collision with railway train or railway vehicle, driver injured in traffic accident); V45.6 (Car occupant injured in collision with railway train or railway vehicle, passenger injured in traffic accident); V45.7 (Car occupant injured in collision with railway train or railway vehicle, person on outside of vehicle injured in traffic accident); V45.9 (Car occupant injured in collision with railway train or railway vehicle, unspecified car occupant injured in traffic accident); V46.4 (Car occupant injured in collision with other nonmotor vehicle, person injured while boarding or alighting); V46.5 (Car occupant injured in collision with other nonmotor vehicle, driver injured in traffic accident); V46.6 (Car occupant injured in collision with other nonmotor vehicle, passenger injured in traffic accident); V46.7 (Car occupant injured in collision with other nonmotor vehicle, person on outside of vehicle injured in traffic accident); V46.9 (Car occupant injured in collision with other nonmotor vehicle, unspecified car occupant injured in traffic accident); V47.4 (Car occupant injured in collision with fixed or stationary object, person injured while boarding or alighting); V47.5 (Car occupant injured in collision with fixed or stationary object, driver injured in traffic accident); V47.6 (Car occupant injured in collision with fixed or stationary object, passenger injured in traffic accident); V47.7 (Car occupant injured in collision with fixed or stationary object, person on outside of vehicle injured in traffic accident); V47.9 (Car occupant injured in collision with fixed or stationary object, unspecified car occupant injured in traffic accident); V48.4 (Car occupant injured in noncollision transport accident, person injured while boarding or alighting); V48.5 (Car occupant injured in noncollision transport accident, driver injured in traffic accident); V48.6 (Car occupant injured in noncollision transport accident, passenger injured in traffic accident); V48.7 (Car occupant injured in noncollision transport accident, person on outside of vehicle injured in traffic accident); V48.9 (Car occupant injured in noncollision transport accident, unspecified car occupant injured in traffic accident); V49.4 (Driver injured in collision with other and unspecified motor vehicles in traffic accident); V49.5 (Passenger injured in collision with other and unspecified motor vehicles in traffic accident); V49.6 (Unspecified car occupant injured in collision with other and unspecified motor vehicles in traffic accident); V49.8 (Car occupant [any] injured in other specified transport accidents); V49.9 (Car occupant [any] injured in unspecified traffic accident);</p>	
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	<p>V50.4 (Occupant of pick-up truck or van injured in collision with pedestrian or animal, person injured while boarding or alighting); V50.5 (Occupant of pick-up truck or van injured in collision with pedestrian or animal, driver injured in traffic accident); V50.6 (Occupant of pick-up truck or van injured in collision with pedestrian or animal, passenger injured in traffic accident); V50.7 (Occupant of pick-up truck or van injured in collision with pedestrian or animal, person on outside of vehicle injured in traffic accident); V50.9 (Occupant of pick-up truck or van injured in collision with pedestrian or animal, unspecified occupant of pick-up truck or van injured in traffic accident); V51.4 (Occupant of pick-up truck or van injured in collision with pedal cycle, person injured while boarding or alighting); V51.5 (Occupant of pick-up truck or van injured in collision with pedal cycle, driver injured in traffic accident); V51.6 (Occupant of pick-up truck or van injured in collision with pedal cycle, passenger injured in traffic accident); V51.7 (Occupant of pick-up truck or van injured in collision with pedal cycle, person on outside of vehicle injured in traffic accident); V51.9 (Occupant of pick-up truck or van injured in collision with pedal cycle, unspecified occupant of pick-up truck or van injured in traffic accident); V52.5 (Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle, driver injured in traffic accident); V52.6 (Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle, passenger injured in traffic accident); V52.7 (Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle, person on outside of vehicle injured in traffic accident); V52.9 (Occupant of pick-up truck or van injured in collision with two- or three-wheeled motor vehicle, unspecified occupant of pick-up truck or van injured in traffic accident); V53.4 (Occupant of pick-up truck or van injured in collision with car, pick-up truck or van, person injured while boarding or alighting); V53.5 (Occupant of pick-up truck or van injured in collision with car, pick-up truck or van, driver injured in traffic accident); V53.6 (Occupant of pick-up truck or van injured in collision with car, pick-up truck or van, passenger injured in traffic accident); V53.7 (Occupant of pick-up truck or van injured in collision with car, pick-up truck or van, person on outside of vehicle injured in traffic accident); V53.9 (Occupant of pick-up truck or van injured in collision with car, pick-up truck or van, unspecified occupant of pick-up truck or van injured in traffic accident); V54.4 (Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus, person injured while boarding or alighting); V54.5 (Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus, driver injured in traffic accident); V54.6 (Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus, passenger injured in traffic accident); V54.7 (Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus, person on outside of vehicle injured in traffic accident); V54.9 (Occupant of pick-up truck or van injured in collision with heavy transport vehicle or bus, unspecified occupant of pick-up truck or van injured in traffic accident); V55.4 (Occupant of pick-up truck or van injured in collision with railway train or railway vehicle, person injured while boarding or alighting); V55.5 (Occupant of pick-up truck or van injured in collision with railway train or railway vehicle, driver injured in traffic accident); V55.6 (Occupant of pick-up truck or van injured in collision with railway train or railway vehicle, passenger injured in traffic accident); V55.7 (Occupant of pick-up truck or van injured in collision with railway train or railway vehicle, person on</p>	
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	<p>outside of vehicle injured in traffic accident); V55.9 (Occupant of pick-up truck or van injured in collision with railway train or railway vehicle, unspecified occupant of pick-up truck or van injured in traffic accident); V56.4 (Occupant of pick-up truck or van injured in collision with other nonmotor vehicle, person injured while boarding or alighting); V56.5 (Occupant of pick-up truck or van injured in collision with other nonmotor vehicle, driver injured in traffic accident); V56.6 (Occupant of pick-up truck or van injured in collision with other nonmotor vehicle, passenger injured in traffic accident); V56.7 (Occupant of pick-up truck or van injured in collision with other nonmotor vehicle, person on outside of vehicle injured in traffic accident); V56.9 (Occupant of pick-up truck or van injured in collision with other nonmotor vehicle, unspecified occupant of pick-up truck or van injured in traffic accident); V57.4 (Occupant of pick-up truck or van injured in collision with fixed or stationary object, person injured while boarding or alighting); V57.5 (Occupant of pick-up truck or van injured in collision with fixed or stationary object, driver injured in traffic accident); V57.6 (Occupant of pick-up truck or van injured in collision with fixed or stationary object, passenger injured in traffic accident); V57.7 (Occupant of pick-up truck or van injured in collision with fixed or stationary object, person on outside of vehicle injured in traffic accident); V57.9 (Occupant of pick-up truck or van injured in collision with fixed or stationary object, unspecified occupant of pick-up truck or van injured in traffic accident); V58.4 (Occupant of pick-up truck or van injured in noncollision transport accident, person injured while boarding or alighting); V58.5 (Occupant of pick-up truck or van injured in noncollision transport accident, driver injured in traffic accident); V58.6 (Occupant of pick-up truck or van injured in noncollision transport accident, passenger injured in traffic accident); V58.7 (Occupant of pick-up truck or van injured in noncollision transport accident, person on outside of vehicle injured in traffic accident); V58.9 (Occupant of pick-up truck or van injured in noncollision transport accident, unspecified occupant of pick-up truck or van injured in traffic accident); V59.4 (Driver injured in collision with other and unspecified motor vehicles in traffic accident); V59.5 (Passenger injured in collision with other and unspecified motor vehicles in traffic accident); V59.6 (Unspecified occupant of pick-up truck or van injured in collision with other and unspecified motor vehicles in traffic accident); V59.8 (Occupant [any] of pick-up truck or van injured in other specified transport accidents); V59.9 (Occupant [any] of pick-up truck or van injured in unspecified traffic accident); V60.4 (Occupant of heavy transport vehicle injured in collision with pedestrian or animal, person injured while boarding or alighting); V60.5 (Occupant of heavy transport vehicle injured in collision with pedestrian or animal, driver injured in traffic accident); V60.6 (Occupant of heavy transport vehicle injured in collision with pedestrian or animal, passenger injured in traffic accident); V60.7 (Occupant of heavy transport vehicle injured in collision with pedestrian or animal, person on outside of vehicle injured in traffic accident); V60.9 (Occupant of heavy transport vehicle injured in collision with pedestrian or animal, unspecified occupant of heavy transport vehicle injured in traffic accident); V61.4 (Occupant of heavy transport vehicle injured in collision with pedal cycle, person injured while boarding or alighting); V61.5 (Occupant of heavy transport vehicle injured in collision with pedal cycle, driver injured in traffic accident); V61.6 (Occupant of heavy transport vehicle injured in collision with pedal cycle, passenger injured in traffic</p>	
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	<p>accident); V61.7 (Occupant of heavy transport vehicle injured in collision with pedal cycle, person on outside of vehicle injured in traffic accident); V61.9 (Occupant of heavy transport vehicle injured in collision with pedal cycle, unspecified occupant of heavy transport vehicle injured in traffic accident); V62.4 (Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle, person injured while boarding or alighting); V62.5 (Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle, driver injured in traffic accident); V62.6 (Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle, passenger injured in traffic accident); V62.7 (Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle, person on outside of vehicle injured in traffic accident); V62.9 (Occupant of heavy transport vehicle injured in collision with two- or three-wheeled motor vehicle, unspecified occupant of heavy transport vehicle injured in traffic accident); V63.4 (Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van, person injured while boarding or alighting); V63.5 (Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van, driver injured in traffic accident); V63.6 (Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van, passenger injured in traffic accident); V63.7 (Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van, person on outside of vehicle injured in traffic accident); V63.9 (Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van, unspecified occupant of heavy transport vehicle injured in traffic accident); V64.4 (Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus, person injured while boarding or alighting); V64.5 (Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus, driver injured in traffic accident); V64.6 (Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus, passenger injured in traffic accident); V64.7 (Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus, person on outside of vehicle injured in traffic accident); V64.9 (Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus, unspecified occupant of heavy transport vehicle injured in traffic accident); V65.4 (Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle, person injured while boarding or alighting); V65.5 (Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle, driver injured in traffic accident); V65.6 (Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle, passenger injured in traffic accident); V65.7 (Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle, person on outside of vehicle injured in traffic accident); V65.9 (Occupant of heavy transport vehicle injured in collision with railway train or railway vehicle, unspecified occupant of heavy transport vehicle injured in traffic accident); V66.4 (Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle, person injured while boarding or alighting); V66.5 (Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle, driver injured in traffic accident); V66.6 (Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle, passenger injured in traffic accident); V66.7 (Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle, person on outside of vehicle injured in traffic accident);</p>	
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	<p>V66.9 (Occupant of heavy transport vehicle injured in collision with other nonmotor vehicle, unspecified occupant of heavy transport vehicle injured in traffic accident); V67.4 (Occupant of heavy transport vehicle injured in collision with fixed or stationary object, person injured while boarding or alighting); V67.5 (Occupant of heavy transport vehicle injured in collision with fixed or stationary object, driver injured in traffic accident); V67.6 (Occupant of heavy transport vehicle injured in collision with fixed or stationary object, passenger injured in traffic accident); V67.7 (Occupant of heavy transport vehicle injured in collision with fixed or stationary object, person on outside of vehicle injured in traffic accident); V67.9 (Occupant of heavy transport vehicle injured in collision with fixed or stationary object, unspecified occupant of heavy transport vehicle injured in traffic accident); V68.4 (Occupant of heavy transport vehicle injured in noncollision transport accident, person injured while boarding or alighting); V68.5 (Occupant of heavy transport vehicle injured in noncollision transport accident, driver injured in traffic accident); V68.6 (Occupant of heavy transport vehicle injured in noncollision transport accident, passenger injured in traffic accident); V68.7 (Occupant of heavy transport vehicle injured in noncollision transport accident, person on outside of vehicle injured in traffic accident); V68.9 (Occupant of heavy transport vehicle injured in noncollision transport accident, unspecified occupant of heavy transport vehicle injured in traffic accident); V69.4 (Driver injured in collision with other and unspecified motor vehicles in traffic accident); V69.5 (Passenger injured in collision with other and unspecified motor vehicles in traffic accident); V69.6 (Unspecified occupant of heavy transport vehicle injured in collision with other and unspecified motor vehicles in traffic accident); V69.8 (Occupant [any] of heavy transport vehicle injured in other specified transport accidents); V69.9 (Occupant [any] of heavy transport vehicle injured in unspecified traffic accident); V70.4 (Bus occupant injured in collision with pedestrian or animal, person injured while boarding or alighting); V70.5 (Bus occupant injured in collision with pedestrian or animal, driver injured in traffic accident); V70.6 (Bus occupant injured in collision with pedestrian or animal, passenger injured in traffic accident); V70.7 (Bus occupant injured in collision with pedestrian or animal, person on outside of vehicle injured in traffic accident); V70.9 (Bus occupant injured in collision with pedestrian or animal, unspecified bus occupant injured in traffic accident); V71.4 (Bus occupant injured in collision with pedal cycle, person injured while boarding or alighting); V71.5 (Bus occupant injured in collision with pedal cycle, driver injured in traffic accident); V71.6 (Bus occupant injured in collision with pedal cycle, passenger injured in traffic accident); V71.7 (Bus occupant injured in collision with pedal cycle, person on outside of vehicle injured in traffic accident); V71.9 (Bus occupant injured in collision with pedal cycle, unspecified bus occupant injured in traffic accident); V72.4 (Bus occupant injured in collision with two- or three-wheeled motor vehicle, person injured while boarding or alighting); V72.5 (Bus occupant injured in collision with two- or three-wheeled motor vehicle, driver injured in traffic accident); V72.6 (Bus occupant injured in collision with two- or three-wheeled motor vehicle, passenger injured in traffic accident); V72.7 (Bus occupant injured in collision with two- or three-wheeled motor vehicle, person on outside of vehicle injured in traffic accident); V72.9 (Bus occupant injured in collision with two- or three-wheeled motor vehicle, unspecified bus occupant</p>	
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	<p>injured in traffic accident); V73.4 (Bus occupant injured in collision with car, pick-up truck or van, person injured while boarding or alighting); V73.5 (Bus occupant injured in collision with car, pick-up truck or van, driver injured in traffic accident); V73.6 (Bus occupant injured in collision with car, pick-up truck or van, passenger injured in traffic accident); V73.7 (Bus occupant injured in collision with car, pick-up truck or van, person on outside of vehicle injured in traffic accident); V73.9 (Bus occupant injured in collision with car, pick-up truck or van, unspecified bus occupant injured in traffic accident); V74.4 (Bus occupant injured in collision with heavy transport vehicle or bus, person injured while boarding or alighting); V74.5 (Bus occupant injured in collision with heavy transport vehicle or bus, driver injured in traffic accident); V74.6 (Bus occupant injured in collision with heavy transport vehicle or bus, passenger injured in traffic accident); V74.7 (Bus occupant injured in collision with heavy transport vehicle or bus, person on outside of vehicle injured in traffic accident); V74.9 (Bus occupant injured in collision with heavy transport vehicle or bus, unspecified bus occupant injured in traffic accident); V75.4 (Bus occupant injured in collision with railway train or railway vehicle, person injured while boarding or alighting); V75.5 (Bus occupant injured in collision with railway train or railway vehicle, driver injured in traffic accident); V75.6 (Bus occupant injured in collision with railway train or railway vehicle, passenger injured in traffic accident); V75.7 (Bus occupant injured in collision with railway train or railway vehicle, person on outside of vehicle injured in traffic accident); V75.9 (Bus occupant injured in collision with railway train or railway vehicle, unspecified bus occupant injured in traffic accident); V76.4 (Bus occupant injured in collision with other nonmotor vehicle, person injured while boarding or alighting); V76.5 (Bus occupant injured in collision with other nonmotor vehicle, driver injured in traffic accident); V76.6 (Bus occupant injured in collision with other nonmotor vehicle, passenger injured in traffic accident); V76.7 (Bus occupant injured in collision with other nonmotor vehicle, person on outside of vehicle injured in traffic accident); V76.9 (Bus occupant injured in collision with other nonmotor vehicle, unspecified bus occupant injured in traffic accident); V77.4 (Bus occupant injured in collision with fixed or stationary object, person injured while boarding or alighting); V77.5 (Bus occupant injured in collision with fixed or stationary object, driver injured in traffic accident); V77.6 (Bus occupant injured in collision with fixed or stationary object, passenger injured in traffic accident); V77.7 (Bus occupant injured in collision with fixed or stationary object, person on outside of vehicle injured in traffic accident); V77.9 (Bus occupant injured in collision with fixed or stationary object, unspecified bus occupant injured in traffic accident); V78.4 (Bus occupant injured in noncollision transport accident, person injured while boarding or alighting); V78.5 (Bus occupant injured in noncollision transport accident, driver injured in traffic accident); V78.6 (Bus occupant injured in noncollision transport accident, passenger injured in traffic accident); V78.7 (Bus occupant injured in noncollision transport accident, person on outside of vehicle injured in traffic accident); V78.9 (Bus occupant injured in noncollision transport accident, unspecified bus occupant injured in traffic accident); V79.4 (Driver injured in collision with other and unspecified motor vehicles in traffic accident); V79.5 (Passenger injured in collision with other and unspecified motor vehicles in traffic accident); V79.6 (Unspecified bus occupant injured in collision with other and</p>	
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	<p>unspecified motor vehicles in traffic accident); V79.8 (Bus occupant [any] injured in other specified transport accidents); V79.9 (Bus occupant [any] injured in unspecified traffic accident); V80.3 (Rider or occupant injured in collision with two- or three-wheeled motor vehicle); V80.4 (Rider or occupant injured in collision with car, pick-up truck, van, heavy transport vehicle or bus); V80.5 (Rider or occupant injured in collision with other specified motor vehicle); V81.1 (Occupant of railway train or railway vehicle injured in collision with motor vehicle in traffic accident); V82.1 (Occupant of streetcar injured in collision with motor vehicle in traffic accident); V83.0 (Driver of special industrial vehicle injured in traffic accident); V83.1 (Passenger of special industrial vehicle injured in traffic accident); V83.2 (Person on outside of special industrial vehicle injured in traffic accident); V83.3 (Unspecified occupant of special industrial vehicle injured in traffic accident); V84.0 (Driver of special agricultural vehicle injured in traffic accident); V84.1 (Passenger of special agricultural vehicle injured in traffic accident); V84.2 (Person on outside of special agricultural vehicle injured in traffic accident); V84.3 (Unspecified occupant of special agricultural vehicle injured in traffic accident); V85.0 (Driver of special construction vehicle injured in traffic accident); V85.1 (Passenger of special construction vehicle injured in traffic accident); V85.2 (Person on outside of special construction vehicle injured in traffic accident); V85.3 (Unspecified occupant of special construction vehicle injured in traffic accident); V86.0 (Driver of all-terrain or other off-road motor vehicle injured in traffic accident); V86.1 (Passenger of all-terrain or other off-road motor vehicle injured in traffic accident); V86.2 (Person on outside of all-terrain or other off-road motor vehicle injured in traffic accident); V86.3 (Unspecified occupant of all-terrain or other off-road motor vehicle injured in traffic accident); V87.0 (Person injured in collision between car and two- or three-wheeled motor vehicle (traffic)); V87.1 (Person injured in collision between other motor vehicle and two- or three-wheeled motor vehicle (traffic)); V87.2 (Person injured in collision between car and pick-up truck or van (traffic)); V87.3 (Person injured in collision between car and bus (traffic)); V87.4 (Person injured in collision between car and heavy transport vehicle (traffic)); V87.5 (Person injured in collision between heavy transport vehicle and bus (traffic)); V87.6 (Person injured in collision between railway train or railway vehicle and car (traffic)); V87.7 (Person injured in collision between other specified motor vehicles (traffic)); V87.8 (Person injured in other specified noncollision transport accidents involving motor vehicle (traffic)); V89.2 (Person injured in unspecified motor-vehicle accident, traffic)</p>	
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Appendix C: Tables

Table 1: Overall Deaths per 100,000 Population, by Region: 2011-2018¹

Year	Border Region	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	U.S.-Mexico border region	49880	654.9	2.9	5.7
	U.S. non-border region	2465578	725	0.5	1.0
	Total	2515458	741.3	0.5	1.0
2012	U.S.-Mexico border region	50795	650.5	2.9	5.7
	U.S. non-border region	2492484	734.7	0.5	1.0
	Total	2543279	732.8	0.5	1.0
2013	U.S.-Mexico border region	51765	646.5	2.9	5.7
	U.S. non-border region	2545228	733.9	0.5	1.0
	Total	2596993	731.9	0.5	1.0
2014	U.S.-Mexico border region	51944	628.7	2.8	5.5
	U.S. non-border region	2574474	726.9	0.5	1.0
	Total	2626418	724.6	0.5	1.0
2015 Mid-term	U.S.-Mexico border region	53784	631.5	2.7	5.3
	U.S. non-border region	2658846	735.5	0.5	1.0
	Total	2712630	733.1	0.5	1.0
2016	U.S.-Mexico border region	55004	631.2	2.7	5.3
	U.S. non-border region	2689244	731.1	0.5	1.0
	Total	2744248	728.8	0.4	0.8
2017	U.S.-Mexico border region	55869	635.4	2.7	5.3
	U.S. non-border region	2757634	734.2	0.4	0.8
	Total	2813503	731.9	0.4	0.8
2018 Closeout	U.S.-Mexico border region	56692	630.4	2.7	5.3
	U.S. non-border region	2782513	725.8	0.4	0.8
	Total	2839205	723.6	0.4	0.8

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 2: Overall Deaths per 100,000 Population, Border Region by State: 2011-2018¹

Year	Border Region by State	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviations*
2011 Baseline	Arizona border region	11285	685.8	6.5	12.7
	California border region	20917	628.0	4.4	8.6
	New Mexico border region	2934	754.0	14.1	27.6
	Texas border region	14744	657.6	5.5	10.8
	Total	49880	654.9	2.9	5.7
2012	Arizona border region	11731	695.1	6.5	12.7
	California border region	21001	614.6	4.3	8.4
	New Mexico border region	2930	737.9	13.8	27.0
	Texas border region	15133	659.8	5.4	10.6
	Total	50795	650.5	2.9	5.7
2013	Arizona border region	11527	670.0	6.4	12.5
	California border region	21614	617.3	4.3	8.4
	New Mexico border region	3010	745.4	13.8	27.0
	Texas border region	15614	662.0	5.3	10.4
	Total	51765	646.5	2.9	5.7
2014	Arizona border region	11660	659.3	6.2	12.2
	California border region	21067	583.2	4.1	8.0
	New Mexico border region	3050	736.3	13.6	26.7
	Texas border region	16167	660.9	5.2	10.2
	Total	51944	628.7	2.8	5.5
2015 Mid-term	Arizona border region	12282	673.4	6.2	12.2
	California border region	21971	590.3	4.0	7.8
	New Mexico border region	3058	727.1	13.5	26.5
	Texas border region	16473	653.8	5.1	10.0
	Total	53784	631.5	2.7	5.3
2016	Arizona border region	12669	673.6	6.2	12.2
	California border region	22541	594.9	4.0	7.8
	New Mexico border region	3127	730.1	13.4	26.3
	Texas border region	16667	645.5	5.0	9.8
	Total	55004	631.2	2.7	5.3
2017	Arizona border region	12744	671.8	6.1	12.0
	California border region	22830	596.8	4.0	7.8
	New Mexico border region	3183	736.8	13.4	26.3
	Texas border region	17112	656.4	5.1	10.0
	Total	55869	635.4	2.7	5.3
2018 Closeout	Arizona border region	13123	671.1	6.1	12.0
	California border region	22956	589.3	3.9	7.6
	New Mexico border region	3271	738.8	13.3	26.1
	Texas border region	17342	652.8	5.0	9.8
	Total	56692	630.4	2.7	5.3

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 3: Overall Deaths per 100,000 Population, Border Region by Hispanic and Non-Hispanic Origin: 2011-2018¹

Year	Hispanic Origin	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Hispanic or Latino	17812	623.3	4.8	9.4
	Non-Hispanic or Latino	32003	674.3	3.8	7.4
	Not Stated	65	Not Applicable	Not Applicable	Not Applicable
	Total	49880	654.9	2.9	5.7
2012	Hispanic or Latino	18540	629.0	4.7	9.2
	Non-Hispanic or Latino	32164	663.4	3.8	7.4
	Not Stated	91	Not Applicable	Not Applicable	Not Applicable
	Total	50795	650.5	2.9	5.7
2013	Hispanic or Latino	19269	630.5	4.6	9.0
	Non-Hispanic or Latino	32336	655.2	3.7	7.3
	Not Stated	160	Not Applicable	Not Applicable	Not Applicable
	Total	51765	646.5	2.9	5.7
2014	Hispanic or Latino	19824	617.3	4.5	8.8
	Non-Hispanic or Latino	31955	635.2	3.7	7.3
	Not Stated	165	Not Applicable	Not Applicable	Not Applicable
	Total	51944	628.7	2.8	5.5
2015 Mid-term	Hispanic or Latino	20359	608.4	4.3	8.4
	Non-Hispanic or Latino	33174	642.3	3.6	7.1
	Not Stated	251	Not Applicable	Not Applicable	Not Applicable
	Total	53784	631.5	2.7	5.3
2016	Hispanic or Latino	21162	613.1	4.3	8.4
	Non-Hispanic or Latino	33490	638.2	3.6	7.1
	Not Stated	352	Not Applicable	Not Applicable	Not Applicable
	Total	55004	631.2	2.7	5.3
2017	Hispanic or Latino	21656	609.8	4.2	8.2
	Non-Hispanic or Latino	33895	647.3	3.6	7.1
	Not Stated	318	Not Applicable	Not Applicable	Not Applicable
	Total	55869	635.4	2.7	5.3
2018 Closeout	Hispanic or Latino	22404	613.7	4.2	8.2
	Non-Hispanic or Latino	33971	637.7	3.6	7.1
	Not Stated	317	Not Applicable	Not Applicable	Not Applicable
	Total	56692	630.4	2.7	5.3

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 4: Overall Deaths per 100,000 Population, Border Region by Sex: 2011-2018¹

Year	Gender	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Female	23715	547	3.6	7.1
	Male	26165	781.8	4.9	9.6
	Total	49880	654.9	2.9	5.7
2012	Female	24174	544.8	3.5	6.9
	Male	26621	774.5	4.8	9.4
	Total	50795	650.5	2.9	5.7
2013	Female	24676	543	3.5	6.9
	Male	27089	768.3	4.7	9.2
	Total	51765	646.5	2.9	5.7
2014	Total	24533	523.1	3.4	6.7
	Male	27411	752.6	4.6	9.0
	Total	51944	628.7	2.8	5.5
2015 Mid-term	Female	25676	531.7	3.4	6.7
	Male	28108	748.1	4.5	8.8
	Total	53784	631.5	2.7	5.3
2016	Female	25887	524	3.3	6.5
	Male	29117	756.4	4.5	8.8
	Total	55004	631.2	2.7	5.3
2017	Female	26378	529.2	3.3	6.5
	Male	29491	757.4	4.5	8.8
	Total	55869	635.4	2.7	5.3
2018 Closeout	Female	26489	521	3.3	6.5
	Male	30203	756.5	4.4	8.6
	Total	56692	630.4	2.7	5.3

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 5: Diabetes-Related Deaths per 100,000 Population, Border Region: 2011-2018¹

Year	Border Region	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	U.S.-Mexico border region	1800	23.8	0.6	1.2
	U.S. non-border region	72031	21.6	0.1	0.2
	Total	73831	21.6	0.1	0.2
2012	U.S.-Mexico border region	1875	24.0	0.6	1.2
	U.S. non-border region	72057	21.1	0.1	0.2
	Total	73932	21.2	0.1	0.2
2013	U.S.-Mexico border region	1952	24.5	0.6	1.2
	U.S. non-border region	73626	21.1	0.1	0.2
	Total	75578	21.2	0.1	0.2
2014	U.S.-Mexico border region	1993	24.2	0.5	1.0
	U.S. non-border region	74495	20.9	0.1	0.2
	Total	76488	20.9	0.1	0.2
2015 Mid-term	U.S.-Mexico border region	2148	25.3	0.6	1.2
	U.S. non-border region	77387	21.2	0.1	0.2
	Total	79535	21.3	0.1	0.2
2016	U.S.-Mexico border region	2145	24.6	0.5	1.0
	U.S. non-border region	77913	20.9	0.1	0.2
	Total	80058	21.0	0.1	0.2
2017	U.S.-Mexico border region	2294	26.0	0.5	1.0
	U.S. non-border region	81270	21.3	0.1	0.2
	Total	83564	21.5	0.1	0.2
2018 Closeout	U.S.-Mexico border region	2354	26.1	0.5	1.0
	U.S. non-border region	82592	21.3	0.1	0.2
	Total	84946	21.4	0.1	0.2

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 6: Diabetes Deaths per 100,000 Population, Border Region by State: 2011-2018¹

Year	Border Region by State	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Arizona border region	369	22.1	1.2	2.4
	California border region	644	19.9	0.8	1.6
	New Mexico border region	93	23.5	2.5	4.9
	Texas border region	694	31.4	1.2	2.4
	Total	1800	23.8	0.6	1.2
2012	Arizona border region	414	24.2	1.2	2.4
	California border region	688	20.4	0.8	1.6
	New Mexico border region	108	26.8	2.6	5.1
	Texas border region	665	29.1	1.1	2.2
	Total	1875	24	0.6	1.2
2013	Arizona border region	456	26.1	1.2	2.4
	California border region	664	19.3	0.8	1.6
	New Mexico border region	107	26.7	2.6	5.1
	Texas border region	725	30.9	1.2	2.4
	Total	1952	24.5	0.6	1.2
2014	Arizona border region	495	27.6	1.3	2.5
	California border region	648	18.3	0.7	1.4
	New Mexico border region	110	26.1	2.5	4.9
	Texas border region	740	30.5	1.1	2.2
	Total	1993	24.2	0.5	1.0
2015 Mid-term	Arizona border region	555	30.7	1.3	2.5
	California border region	770	21	0.8	1.6
	New Mexico border region	90	21.5	2.3	4.5
	Texas border region	733	29.2	1.1	2.2
	Total	2148	25.3	0.6	1.2
2016	Arizona border region	496	26.3	1.2	2.4
	California border region	812	21.3	0.8	1.6
	New Mexico border region	133	32	2.9	5.7
	Texas border region	704	27.4	1	2.0
	Total	2145	24.6	0.5	1.0
2017	Arizona border region	505	27	1.2	2.4
	California border region	863	22.6	0.8	1.6
	New Mexico border region	100	23	2.4	4.7
	Texas border region	826	31.8	1.1	2.2
	Total	2294	26	0.5	1.0
2018 Closeout	Arizona border region	517	26.5	1.2	2.4
	California border region	846	21.7	0.8	1.6
	New Mexico border region	142	31.5	2.7	5.3
	Texas border region	849	32.1	1.1	2.2
	Total	2354	26.1	0.5	1.0

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 7: Heart Disease Deaths per 100,000 Population, Border Region: 2011-2018¹

Year	Border Region	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	U.S.-Mexico border region	7619	99.8	1.1	2.2
	U.S. non-border region	367676	109.4	0.2	0.4
	Total	375295	109.2	0.2	0.4
2012	U.S.-Mexico border region	7456	95.4	1.1	2.2
	U.S. non-border region	364013	105.7	0.2	0.4
	Total	371469	105.4	0.2	0.4
2013	U.S.-Mexico border region	7747	96.0	1.1	2.2
	U.S. non-border region	362466	102.8	0.2	0.4
	Total	370213	102.6	0.2	0.4
2014	U.S.-Mexico border region	7583	91.0	1.1	2.2
	U.S. non-border region	357010	99.0	0.2	0.4
	Total	364593	98.8	0.2	0.4
2015 Mid-term	U.S.-Mexico border region	7656	88.9	1	2.0
	U.S. non-border region	359145	97.4	0.2	0.4
	Total	366801	97.2	0.2	0.4
2016	U.S.-Mexico border region	7825	88.5	1	2.0
	U.S. non-border region	355627	94.5	0.2	0.4
	Total	363452	94.3	0.2	0.4
2017	U.S.-Mexico border region	7753	86.9	1	2.0
	U.S. non-border region	358161	93.0	0.2	0.4
	Total	365914	92.9	0.2	0.4
2018 Closeout	U.S.-Mexico border region	7591	83.1	1	2.0
	U.S. non-border region	358153	91.0	0.2	0.4
	Total	365744	90.9	0.2	0.4

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 8: Heart Disease Deaths per 100,000 Population, Border Region by State: 2011-2018¹

Year	Border Region by State	Deaths	Age Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Arizona border region	1714	100.8	2.5	4.9
	California border region	3318	99.4	1.7	3.3
	New Mexico border region	449	112.3	5.3	10.4
	Texas border region	2138	97.4	2.1	4.1
	Total	7619	99.8	1.1	2.2
2012	Arizona border region	1660	95.2	2.4	4.7
	California border region	3175	93	1.7	3.3
	New Mexico border region	410	99.7	5	9.8
	Texas border region	2211	98.1	2.1	4.1
	Total	7456	95.4	1.1	2.2
2013	Arizona border region	1737	96.6	2.3	4.5
	California border region	3308	93.8	1.7	3.3
	New Mexico border region	413	100.1	5	9.8
	Texas border region	2289	98.1	2.1	4.1
	Total	7747	96	1.1	2.2
2014	Arizona border region	1699	91.4	2.2	4.3
	California border region	3049	83.8	1.5	2.9
	New Mexico border region	424	99.1	4.9	9.6
	Texas border region	2411	99.6	2	3.9
	Total	7583	91	1.1	2.2
2015 Mid-term	Arizona border region	1701	88.6	2.2	4.3
	California border region	3087	82.5	1.5	2.9
	New Mexico border region	449	101.4	4.9	9.6
	Texas border region	2419	96.6	2	3.9
	Total	7656	88.9	1	2.0
2016	Arizona border region	1831	92.1	2.2	4.3
	California border region	3109	80.8	1.5	2.9
	New Mexico border region	446	98.5	4.7	9.2
	Texas border region	2439	94.8	1.9	3.7
	Total	7825	88.5	1	2.0
2017	Arizona border region	1746	87.1	2.1	4.1
	California border region	3026	78.3	1.4	2.7
	New Mexico border region	457	99.9	4.7	9.2
	Texas border region	2524	97	1.9	3.7
	Total	7753	86.9	1	2.0
2018 Closeout	Arizona border region	1801	85.8	2.1	4.1
	California border region	2766	70	1.4	2.7
	New Mexico border region	460	98.2	4.6	9.0
	Texas border region	2564	96.8	1.9	3.7
	Total	7591	83.1	1	2.0

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 9: Cervical Cancer Deaths per 100,000 female population, Border Region: 2011-2018¹

Year	Border Region	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	U.S.-Mexico border region	94	3.6	0.4	0.8
	U.S. non-border region	3985	3.6	0.1	0.2
	Total	4079	3.6	0.1	0.2
2012	U.S.-Mexico border region	97	3.9	0.4	0.8
	U.S. non-border region	3968	3.5	0.1	0.2
	Total	4065	3.5	0.1	0.2
2013	U.S.-Mexico border region	107	4.1	0.4	0.8
	U.S. non-border region	4097	3.6	0.1	0.2
	Total	4204	3.6	0.1	0.2
2014	U.S.-Mexico border region	88	3.2	0.3	0.6
	U.S. non-border region	4015	3.5	0.1	0.2
	Total	4103	3.5	0.1	0.2
2015 Mid-term	U.S.-Mexico border region	117	4.5	0.4	0.8
	U.S. non-border region	4048	3.4	0.1	0.2
	Total	4165	3.5	0.1	0.2
2016	U.S.-Mexico border region	105	3.8	0.4	0.8
	U.S. non-border region	4075	3.4	0.1	0.2
	Total	4180	3.4	0.1	0.2
2017	U.S.-Mexico border region	111	4	0.4	0.8
	U.S. non-border region	4088	3.4	0.1	0.2
	Total	4199	3.4	0.1	0.2
2018 Closeout	U.S.-Mexico border region	94	3.4	0.4	0.8
	U.S. non-border region	4042	3.3	0.1	0.2
	Total	4136	3.3	0.1	0.2

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 10: Cervical Cancer Deaths per 100,000 Female Population, Border Region by State: 2011-2018¹

Year	Border Region by State	Deaths	Age- Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Arizona border region	S	S	S	
	California border region	42	3.7	0.6	1.2
	New Mexico border region	S	S	S	
	Texas border region	36	4.5	0.8	1.6
2012	Arizona border region	S	S	S	
	California border region	26	2.3	0.5	1.0
	New Mexico border region	S	S	S	
	Texas border region	52	6.5	0.9	1.8
2013	Arizona border region	S	S	S	
	California border region	43	3.6	0.6	1.2
	New Mexico border region	S	S	S	
	Texas border region	43	5.2	0.8	1.6
2014	Arizona border region	S	S	S	
	California border region	35	2.8	0.5	1.0
	New Mexico border region	S	S	S	
	Texas border region	37	4.3	0.7	1.4
2015 Mid-term	Arizona border region	S	S	S	
	California border region	48	4	0.6	1.2
	New Mexico border region	S	S	S	
	Texas border region	50	6	0.9	1.8
2016	Arizona border region	S	S	S	
	California border region	41	3.3	0.5	1.0
	New Mexico border region	S	S	S	
	Texas border region	48	5.6	0.8	1.6
2017	Arizona border region	S	S	S	
	California border region	45	3.5	0.5	1.0
	New Mexico border region	S	S	S	
	Texas border region	50	5.7	0.8	1.6
2018 Closeout	Arizona border region	S	S	S	
	California border region	33	2.7	0.5	1.0
	New Mexico border region	S	S	S	
	Texas border region	42	4.9	0.8	1.6

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

S=Suppressed; Ten cases or less were suppressed to comply with confidence regulations and practices.

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 11: Breast Cancer Deaths per 100,000 Female Population, Border Region: 2011-2018¹

Year	Border Region	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	U.S.-Mexico border region	799	19.3	0.7	1.4
	U.S. non-border region	40132	21.7	0.1	0.2
	Total	40931	21.6	0.1	0.2
2012	U.S.-Mexico border region	861	20.3	0.7	1.4
	U.S. non-border region	40291	21.4	0.1	0.2
	Total	41152	21.3	0.1	0.2
2013	U.S.-Mexico border region	801	18.5	0.7	1.4
	U.S. non-border region	40060	20.9	0.1	0.2
	Total	40861	20.8	0.1	0.2
2014	U.S.-Mexico border region	844	19.1	0.7	1.4
	U.S. non-border region	40369	20.7	0.1	0.2
	Total	41213	20.6	0.1	0.2
2015 Mid-term	U.S.-Mexico border region	862	18.9	0.7	1.4
	U.S. non-border region	40662	20.4	0.1	0.2
	Total	41524	20.3	0.1	0.2
2016	U.S.-Mexico border region	881	19.1	0.7	1.4
	U.S. non-border region	40607	20.1	0.1	0.2
	Total	41488	20.1	0.1	0.2
2017	U.S.-Mexico border region	909	19.3	0.7	1.4
	U.S. non-border region	41091	19.9	0.1	0.2
	Total	42000	19.9	0.1	0.2
2018 Closeout	U.S.-Mexico border region	902	18.8	0.6	1.2
	U.S. non-border region	41564	19.8	0.1	0.2
	Total	42466	19.7	0.1	0.2

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 12: Breast Cancer Deaths per 100,000 Female Population, Border Region by State: 2011-2018¹

Year	Border Region by State	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Arizona border region	167	19	1.5	2.9
	California border region	369	20.7	1.1	2.2
	New Mexico border region	50	25.1	3.7	7.3
	Texas border region	213	16.8	1.2	2.4
	Total	799	19.3	0.7	1.4
2012	Arizona border region	166	19.1	1.5	2.9
	California border region	406	22.3	1.1	2.2
	New Mexico border region	42	18.4	2.9	5.7
	Texas border region	247	19.2	1.2	2.4
	Total	861	20.3	0.7	1.4
2013	Arizona border region	178	19.3	1.5	2.9
	California border region	368	19.3	1	2.0
	New Mexico border region	38	17.4	2.9	5.7
	Texas border region	217	16.7	1.1	2.2
	Total	801	18.5	0.7	1.4
2014	Arizona border region	156	16.5	1.4	2.7
	California border region	378	19.6	1	2.0
	New Mexico border region	55	24.9	3.5	6.9
	Texas border region	255	19	1.2	2.4
	Total	844	19.1	0.7	1.4
2015 Mid-term	Arizona border region	177	18.5	1.5	2.9
	California border region	378	18.7	1	2.0
	New Mexico border region	43	20.3	3.2	6.3
	Texas border region	264	19.1	1.2	2.4
	Total	862	18.9	0.7	1.4
2016	Arizona border region	173	18.5	1.5	2.9
	California border region	392	19.4	1	2.0
	New Mexico border region	53	23.5	3.3	6.5
	Texas border region	263	18.7	1.2	2.4
	Total	881	19.1	0.7	1.4
2017	Arizona border region	171	17.2	1.4	2.7
	California border region	423	20.3	1	2.0
	New Mexico border region	48	20.8	3.1	6.1
	Texas border region	267	18.8	1.2	2.4
	Total	909	19.3	0.7	1.4
2018 Closeout	Arizona border region	143	14.1	1.2	2.4
	California border region	444	21.1	1	2.0
	New Mexico border region	51	22.8	3.4	6.7
	Texas border region	264	18.3	1.1	2.2
	Total	902	18.8	0.6	1.2

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 13: Unintentional Injury Deaths per 100,000 Population, Border Region: 2011-2018¹

Year	Border Region	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	U.S.-Mexico border region	2585	34.0	0.7	1.4
	U.S. non-border region	123853	39.3	0.1	0.2
	Total	126438	39.1	0.1	0.2
2012	U.S.-Mexico border region	2602	33.7	0.7	1.4
	U.S. non-border region	125190	39.2	0.1	0.2
	Total	127792	39.1	0.1	0.2
2013	U.S.-Mexico border region	2749	35.0	0.7	1.4
	U.S. non-border region	127808	39.5	0.1	0.2
	Total	130557	39.4	0.1	0.2
2014	U.S.-Mexico border region	2807	35.1	0.7	1.4
	U.S. non-border region	133121	40.6	0.1	0.2
	Total	135928	40.5	0.1	0.2
2015 Mid-term	U.S.-Mexico border region	2819	34.4	0.7	1.4
	U.S. non-border region	143752	43.4	0.1	0.2
	Total	146571	43.2	0.1	0.2
2016	U.S.-Mexico border region	3028	36.8	0.7	1.4
	U.S. non-border region	158346	47.7	0.1	0.2
	Total	161374	47.4	0.1	0.2
2017	U.S.-Mexico border region	3137	37.8	0.7	1.4
	U.S. non-border region	166799	49.7	0.1	0.2
	Total	169936	49.4	0.1	0.2
2018 Closeout	U.S.-Mexico border region	3205	38.1	0.7	1.4
	U.S. non-border region	163922	48.2	0.1	0.2
	Total	167127	48.0	0.1	0.2

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 14: Unintentional Injury Deaths per 100,000 Population, Border Region by State: 2011-2018¹

Year	Border Region by State	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Arizona border region	590	42.1	1.8	3.5
	California border region	1094	32.2	1	2.0
	New Mexico border region	169	48.2	3.8	7.4
	Texas border region	732	29.6	1.1	2.2
	Total	2585	34.0	0.7	1.4
2012	Arizona border region	646	44.5	1.8	3.5
	California border region	1071	31.0	1	2.0
	New Mexico border region	185	52.2	3.9	7.6
	Texas border region	700	28.1	1.1	2.2
	Total	2602	33.7	0.7	1.4
2013	Arizona border region	716	48.4	1.9	3.7
	California border region	1128	31.9	1	2.0
	New Mexico border region	164	46.4	3.7	7.3
	Texas border region	741	29.4	1.1	2.2
	Total	2749	35.0	0.7	1.4
2014	Arizona border region	689	46.7	1.8	3.5
	California border region	1176	32.5	1	2.0
	New Mexico border region	231	64.4	4.4	8.6
	Texas border region	711	27.9	1.1	2.2
	Total	2807	35.1	0.7	1.4
2015 Mid-term	Arizona border region	737	49.2	1.9	3.7
	California border region	1148	30.7	0.9	1.8
	New Mexico border region	208	57.0	4.1	8.0
	Texas border region	726	27.8	1	2.0
	Total	2819	34.4	0.7	1.4
2016	Arizona border region	856	55.2	2	3.9
	California border region	1188	32.3	1	2.0
	New Mexico border region	209	53.5	3.8	7.4
	Texas border region	775	29.4	1.1	2.2
	Total	3028	36.8	0.7	1.4
2017	Arizona border region	837	54.3	2	3.9
	California border region	1296	34.5	1	2.0
	New Mexico border region	199	55.1	4.1	8.0
	Texas border region	805	30.4	1.1	2.2
	Total	3137	37.8	0.7	1.4
2018 Closeout	Arizona border region	847	53.4	1.9	3.7
	California border region	1382	36.7	1	2.0
	New Mexico border region	198	54.2	4	7.8
	Texas border region	778	29.1	1.1	2.2
	Total	3205	38.1	0.7	1.4

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 15: Road Traffic-Related Deaths per 100,000 Population, Border Region: 2011-2018¹

Year	Border Region	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	U.S.-Mexico border region	726	9.3	0.3	0.6
	U.S. non-border region	33057	10.7	0.1	0.2
	Total	33783	10.6	0.1	0.2
2012	U.S.-Mexico border region	784	10	0.4	0.8
	U.S. non-border region	34151	10.9	0.1	0.2
	Total	34935	10.9	0.1	0.2
2013	U.S.-Mexico border region	786	9.9	0.4	0.8
	U.S. non-border region	33018	10.4	0.1	0.2
	Total	33804	10.5	0.1	0.2
2014	U.S.-Mexico border region	735	9.1	0.3	0.6
	U.S. non-border region	33001	10.4	0.1	0.2
	Total	33736	10.3	0.1	0.2
2015 Mid-term	U.S.-Mexico border region	735	9.1	0.3	0.6
	U.S. non-border region	35426	11	0.1	0.2
	Total	36161	10.9	0.1	0.2
2016	U.S.-Mexico border region	839	10.4	0.4	0.8
	U.S. non-border region	37909	11.7	0.1	0.2
	Total	38748	11.7	0.1	0.2
2017	U.S.-Mexico border region	793	9.6	0.3	0.6
	U.S. non-border region	37866	11.6	0.1	0.2
	Total	38659	11.5	0.1	0.2
2018 Closeout	U.S.-Mexico border region	869	10.5	0.4	0.8
	U.S. non-border region	37122	11.2	0.1	0.2
	Total	37991	11.2	0.1	0.2

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age- Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 16: Road Traffic-Related Deaths per 100,000 Population, Border Region by State: 2011-2018¹

Year	Border Region by State	Deaths	Age-Adjusted Rate	Age-Adjusted Rate Standard Error	Age-Adjusted Rate Standard Deviation*
2011 Baseline	Arizona border region	153	11.1	0.9	1.8
	California border region	224	6.5	0.4	0.8
	New Mexico border region	36	9.7	1.7	3.3
	Texas border region	313	11.9	0.7	1.4
	Total	726	9.3	0.3	0.6
2012	Arizona border region	169	11.9	0.9	1.8
	California border region	239	6.9	0.5	1.0
	New Mexico border region	49	14	2	3.9
	Texas border region	327	12.4	0.7	1.4
	Total	784	10	0.4	0.8
2013	Arizona border region	169	11.7	0.9	1.8
	California border region	220	6.2	0.4	0.8
	New Mexico border region	41	11.8	1.9	3.7
	Texas border region	356	13.6	0.7	1.4
	Total	786	9.9	0.4	0.8
2014	Arizona border region	141	10	0.9	1.8
	California border region	254	7	0.4	0.8
	New Mexico border region	52	14.1	2	3.9
	Texas border region	288	10.9	0.6	1.2
	Total	735	9.1	0.3	0.6
2015 Mid-term	Arizona border region	135	9.7	0.9	1.8
	California border region	260	6.9	0.4	0.8
	New Mexico border region	42	12.5	2	3.9
	Texas border region	298	11.2	0.7	1.4
	Total	735	9.1	0.3	0.6
2016	Arizona border region	177	12.3	1	2.0
	California border region	263	7.3	0.5	1.0
	New Mexico border region	56	14.6	2	3.9
	Texas border region	343	12.8	0.7	1.4
	Total	839	10.4	0.4	0.8
2017	Arizona border region	173	11.8	0.9	1.8
	California border region	280	7.7	0.5	1.0
	New Mexico border region	53	15.3	2.2	4.3
	Texas border region	287	10.5	0.6	1.2
	Total	793	9.6	0.3	0.6
2018 Closeout	Arizona border region	195	12.8	1	2.0
	California border region	301	8.2	0.5	1.0
	New Mexico border region	45	11.8	1.8	3.5
	Texas border region	328	12.1	0.7	1.4
	Total	869	10.5	0.4	0.8

*Age-Adjusted Rate Standard Deviation calculated by multiplying the Age-Adjusted Rate Standard Error by 1.96

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Table 17: Age and Sex Adjusted Asthma¹ Discharge Rates and Average Duration of Stay per 100,000 Population, Border Community Hospitals: 2013-2015

	Age/sex adjusted discharge rates per 100,000	Mean length of stay (days)
Border Region	76.43	3.22
Arizona border region	88.29	3.54
California border region	69.50	2.75
New Mexico border region	87.06	3.11
Texas border region	79.04	3.54

Table 18: Gonorrhea Incidence per 100,000 Population, Border Region, Select Years: 2011-2018²

Year	Border Region	Cases	Incidence Rate per 100,000 population
2011 Baseline	U.S.-Mexico border region	4514	58.7
	U.S. non-border region	59946	93.4
	Total	64460	89.7
2015 Mid-term	U.S.-Mexico border region	6641	83.6
	U.S. non-border region	97898	145.2
	Total	104539	138.7
2018 Closeout	U.S.-Mexico border region	11503	142.8
	U.S. non-border region	132830	192.8
	Total	144333	187.6

Table 19: Gonorrhea Incidence per 100,000 Population, Border Region by State, Select Years: 2011-2018²

Year	Border Region by State	Cases	Incidence per 100,000 population
2011 Baseline	Arizona border region	538	39.3
	California border region	2214	66.8
	New Mexico border region	219	62.7
	Texas border region	1543	58.1
	Total	4514	58.7
2015 Mid-term	Arizona border region	1229	89
	California border region	3765	108.5
	New Mexico border region	267	77.3
	Texas border region	1380	50.3
	Total	6641	83.6
2018 Closeout	Arizona border region	2351	167.8
	California border region	6381	181.3
	New Mexico border region	560	160.7
	Texas border region	2211	79.5
	Total	11503	142.8

¹ Home, Healthcare Cost and Utilization Project (HCUP)," Agency for Healthcare Research and Quality, 2020. [Online]. Available: www.hcup-us.ahrq.gov/home.jsp.

² "NCHHSTP AtlasPlus," Centers for Disease Control and Prevention, Updated 2019. [Online]. Available: <https://www.cdc.gov/nchhstp/atlas/index.htm>. [Accessed 22 May 2020].

Table 20: Congenital Syphilis Incidence per 100,000 Live Births, Border Region by State, Select Years: 2011-2018¹

Year	Border Region by State	Cases	Rate per 100,000 live births
2011 Baseline	Arizona border region	S	S
	California border region	S	S
	New Mexico border region	S	S
	Texas border region	S	S
	Total	S	S
2015 Mid-term	Arizona border region	14	16.4
	California border region	140	28.5
	New Mexico border region	S	S
	Texas border region	52	12.9
	Total	208	10.2
2018 Closeout	Arizona border region	61	72.2
	California border region	332	67.9
	New Mexico border region	S	S
	Texas border region	367	92.2
	Total	770	69.8

S= Suppressed; Ten cases or less were suppressed to comply with confidence regulations and practices.

Table 21: Congenital Syphilis Incidence per 100,000 Live Births, Border Region, Select Years: 2011-2018¹

Year	Border Region	Cases	Rate per 100,000 live births
2011 Baseline	U.S.-Mexico border region	S	S
	U.S. non-border region	S	S
	Total	S	S
2015 Mid-term	U.S.-Mexico border region	12	10.2
	U.S. non-border region	196	22.0
	Total	208	20.7
2018 Closeout	U.S.-Mexico border region	79	69.8
	U.S. non-border region	691	78.3
	Total	770	77.3

S= Suppressed; Ten cases or less were suppressed to comply with confidence regulations and practices.

¹ "NCHHSTP AtlasPlus," Centers for Disease Control and Prevention, Updated 2019. [Online]. Available: <https://www.cdc.gov/nchhstp/atlas/index.htm>. [Accessed 22 May 2020].

Table 22: Border Region by State and County

	State	Border County	Border Region
1	ARIZONA	Cochise	Arizona border
2	ARIZONA	Pima	
3	ARIZONA	Santa Cruz	
4	ARIZONA	Yuma	
5	CALIFORNIA	Imperial	California border
6	CALIFORNIA	San Diego	
7	NEW MEXICO	Dona Ana	New Mexico border
8	NEW MEXICO	Grant	
9	NEW MEXICO	Hidalgo	
10	NEW MEXICO	Luna	
11	NEW MEXICO	Otero	
12	NEW MEXICO	Sierra	
13	TEXAS	Brewster	Texas border
14	TEXAS	Brooks	
15	TEXAS	Cameron	
16	TEXAS	Crockett	
17	TEXAS	Culberson	
18	TEXAS	Dimmit	
19	TEXAS	Duval	
20	TEXAS	Edwards	
21	TEXAS	El Paso	
22	TEXAS	Frio	
23	TEXAS	Hidalgo	
24	TEXAS	Hudspeth	
25	TEXAS	Jeff Davis	
26	TEXAS	Jim Hogg	
27	TEXAS	Kenedy	
28	TEXAS	Kinney	
29	TEXAS	La Salle	
30	TEXAS	McMullen	
31	TEXAS	Maverick	
32	TEXAS	Pecos	
33	TEXAS	Presidio	
34	TEXAS	Real	
35	TEXAS	Reeves	
36	TEXAS	Starr	
37	TEXAS	Sutton	
38	TEXAS	Terrell	
39	TEXAS	Uvalde	
40	TEXAS	Val Verde	
41	TEXAS	Webb	
42	TEXAS	Willacy	
43	TEXAS	Zapata	
44	TEXAS	Zavala	

Appendix D: Supplemental Graphs

The following supplemental graphs for the Healthy Border 2020 review provide data for all years that comprise the program years of 2011-2018 including the cluster of border counties by each border state. Please see Table 22 for the complete list of U.S. border counties.

This additional information was not used for the establishment of the findings or discussion session of the Healthy Border 2020 objectives but is provided as general information.

Figure 23: Age-Adjusted Overall Deaths per 100,000 Population, by Region: 2011-2018¹

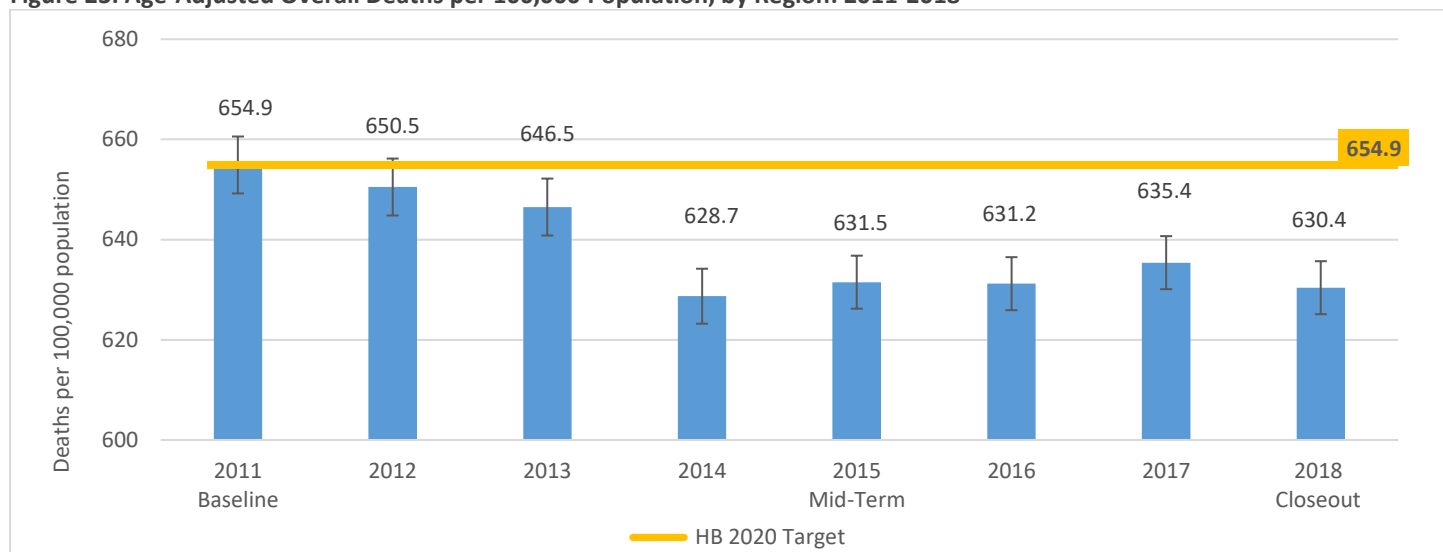
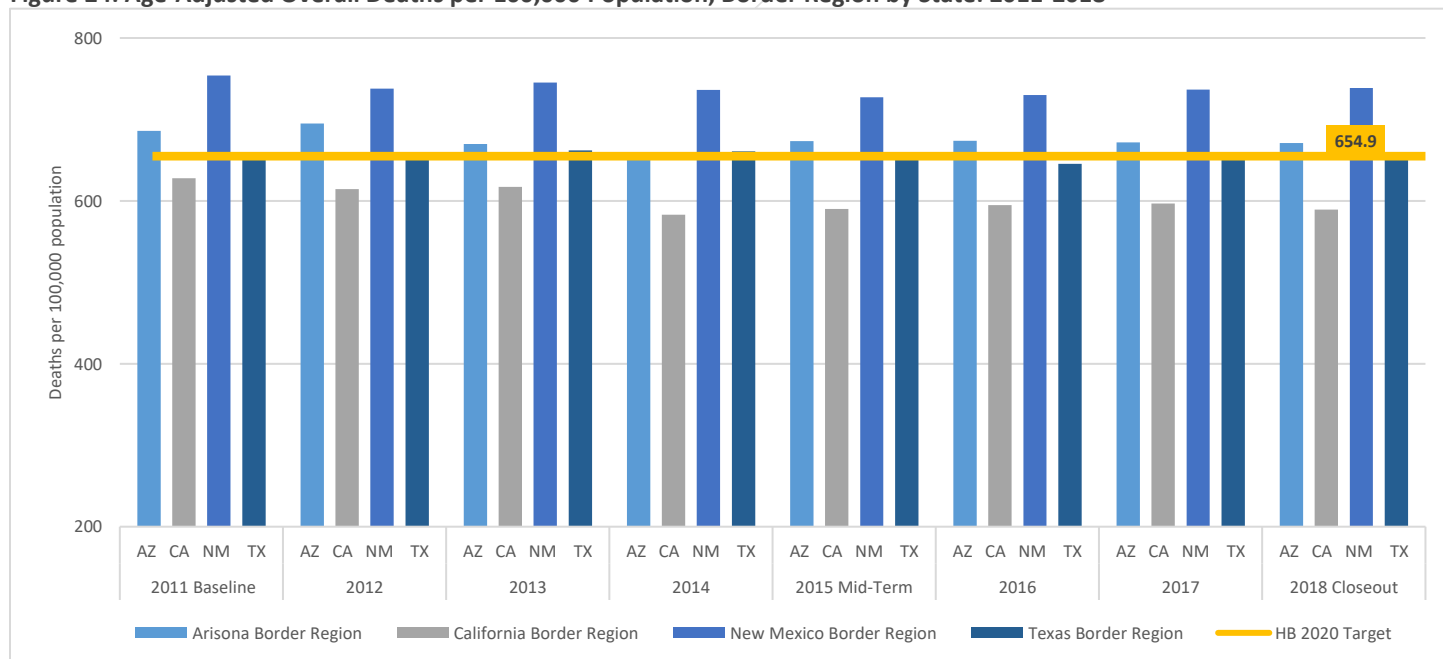
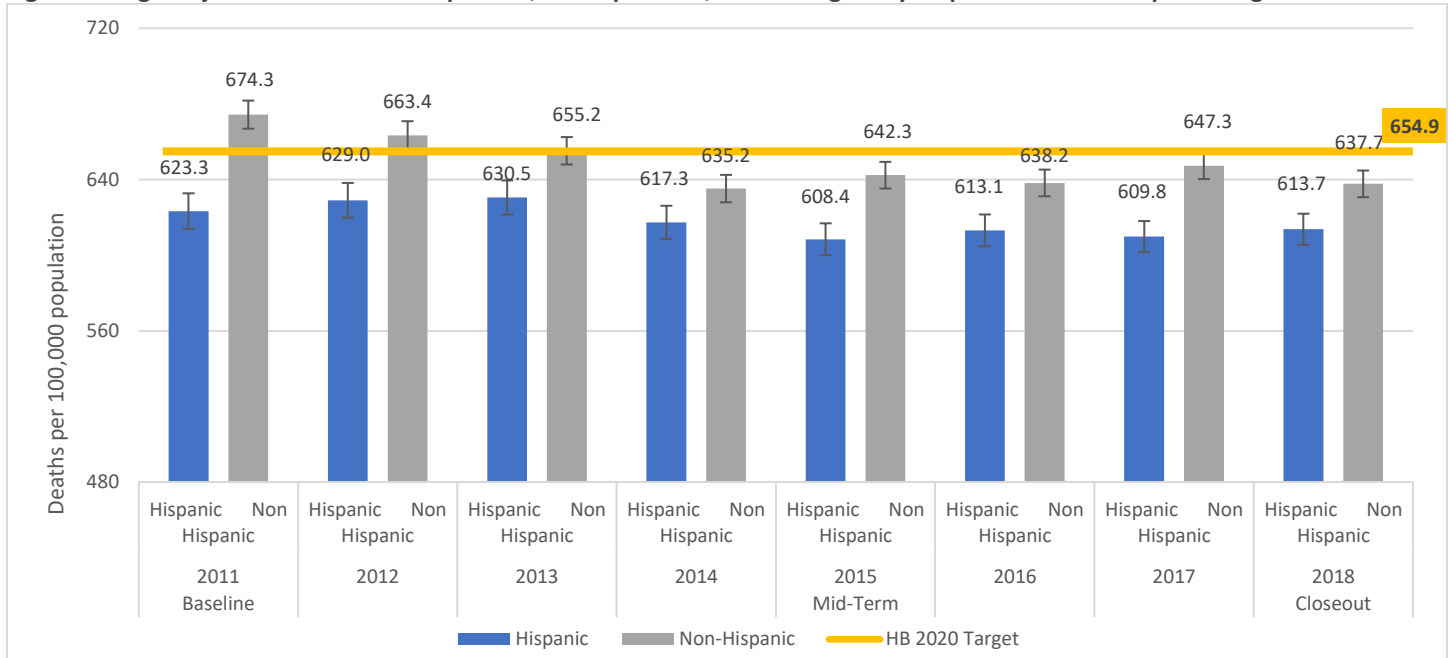
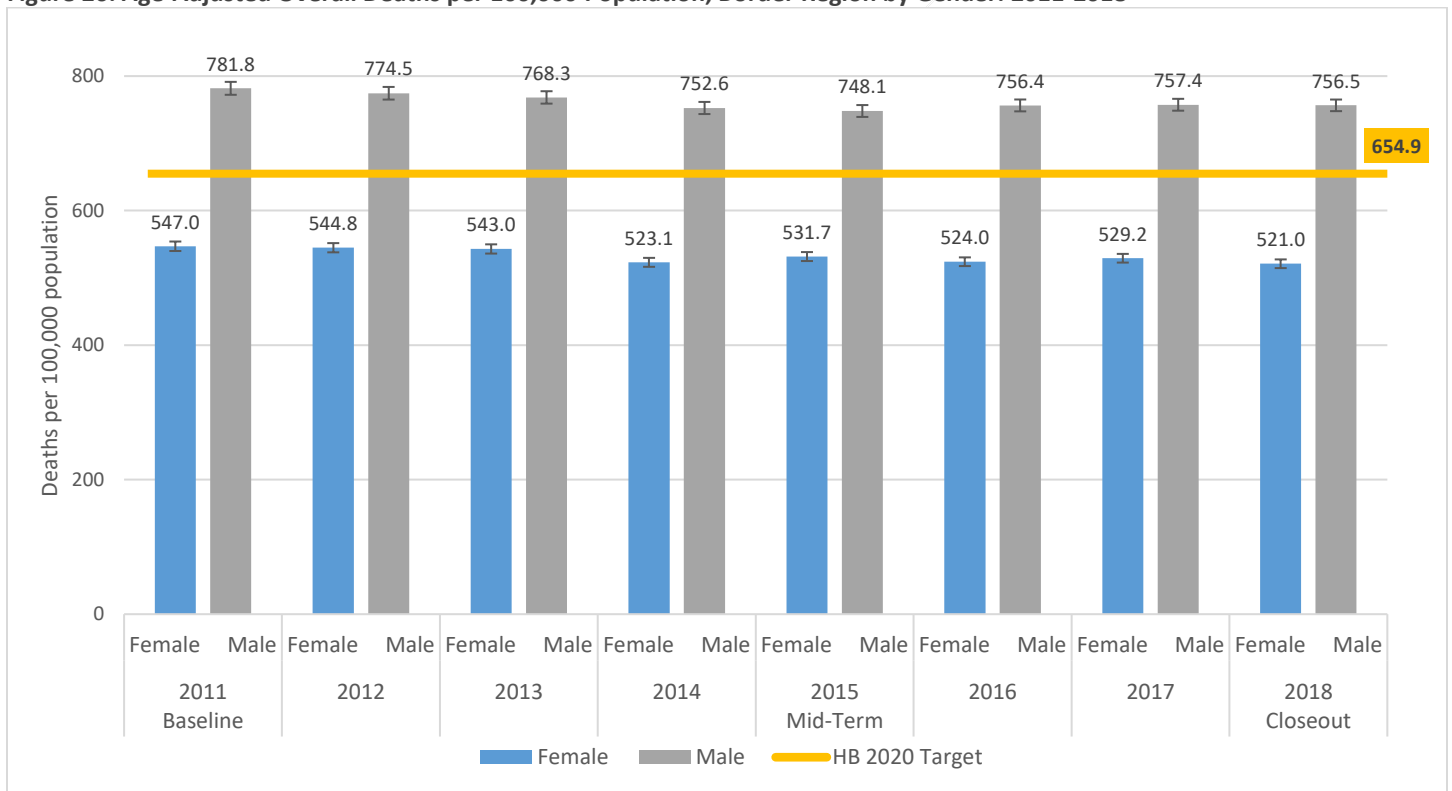


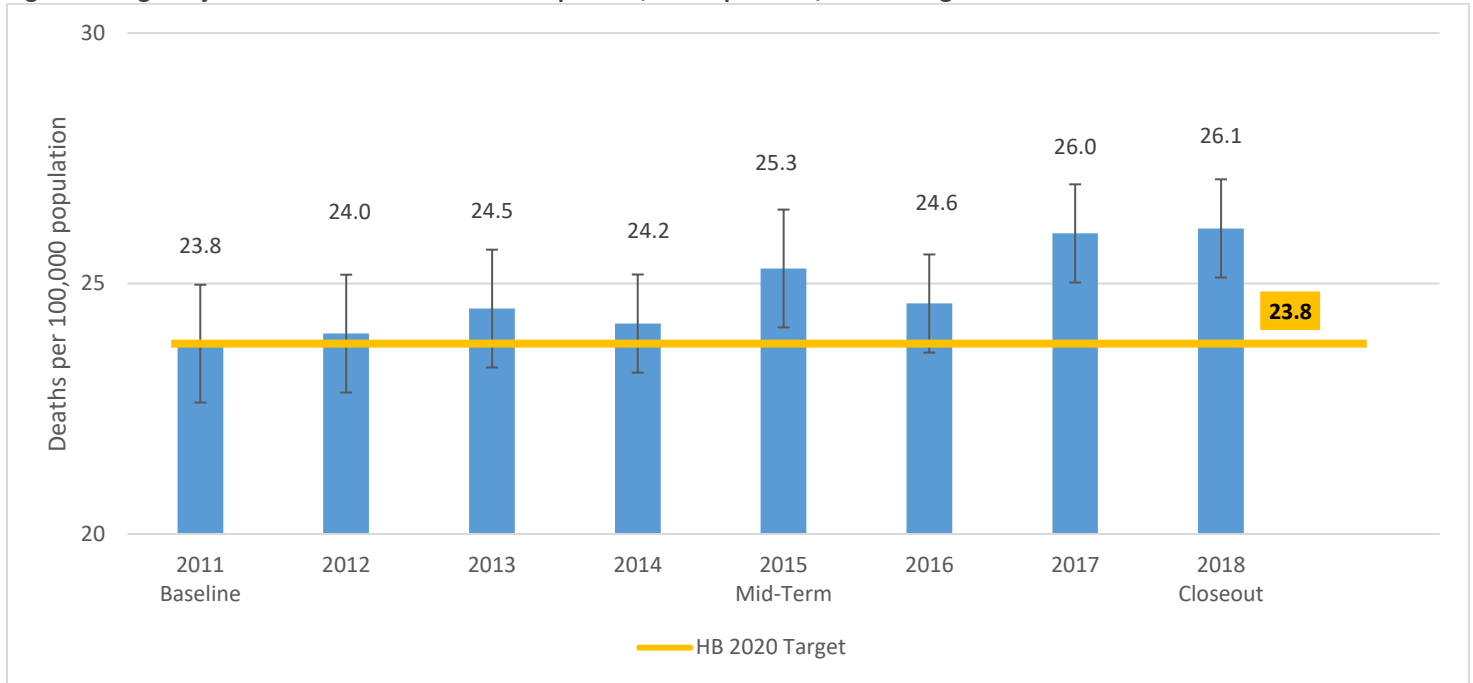
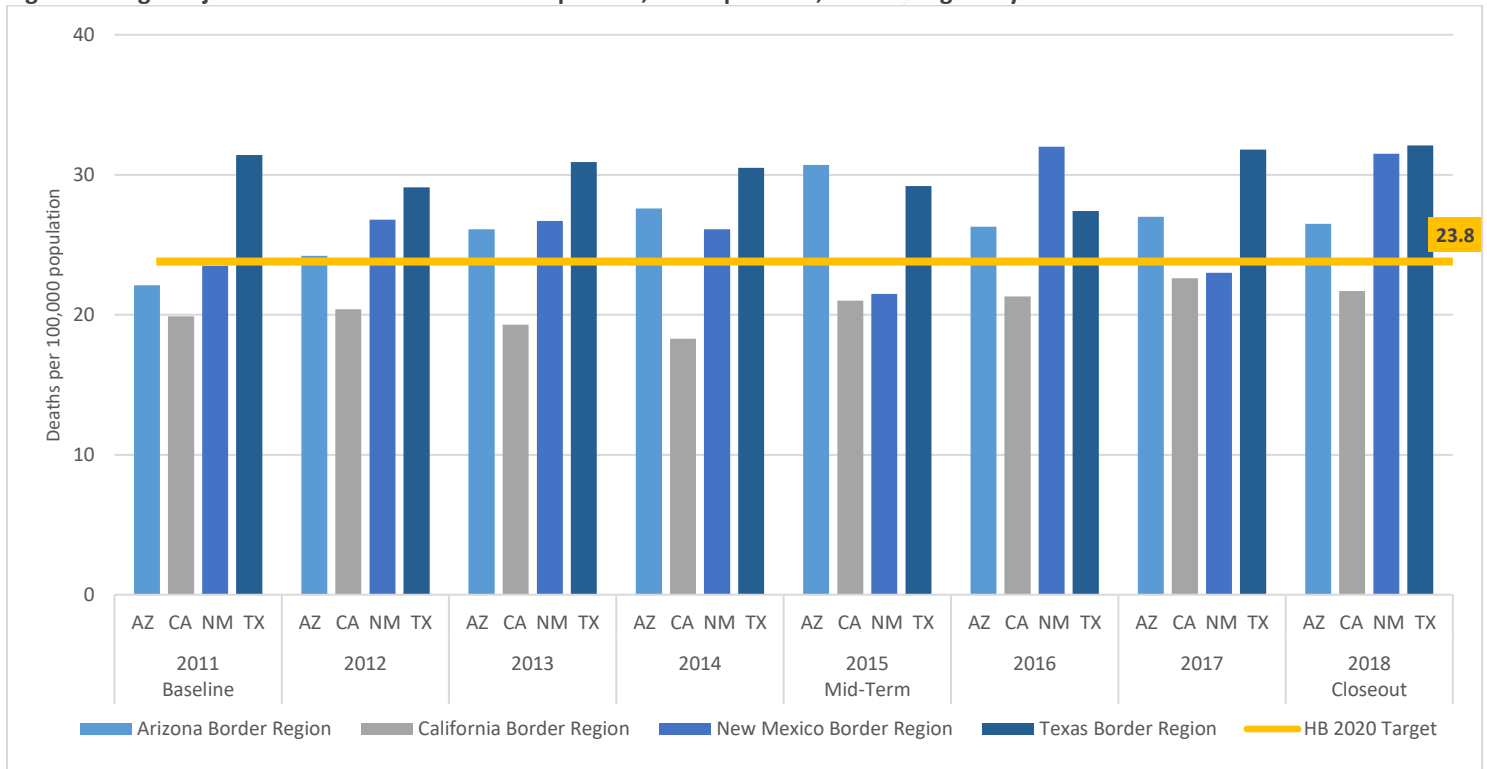
Figure 24: Age-Adjusted Overall Deaths per 100,000 Population, Border Region by State: 2011-2018¹



¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Figure 25: Age-Adjusted Overall Deaths per 100,000 Population, Border Region by Hispanic and Non-Hispanic Origin: 2011-2018¹**Figure 26: Age-Adjusted Overall Deaths per 100,000 Population, Border Region by Gender: 2011-2018¹**

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Figure 27: Age-Adjusted Diabetes-Related Deaths per 100,000 Population, Border Region: 2011-2018¹**Figure 28: Age-Adjusted Diabetes-Related Deaths per 100,000 Population, Border Region by State: 2011-2018¹**

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Figure 29: Age-Adjusted Heart Disease Deaths per 100,000 Population, Border Region: 2011-2018¹

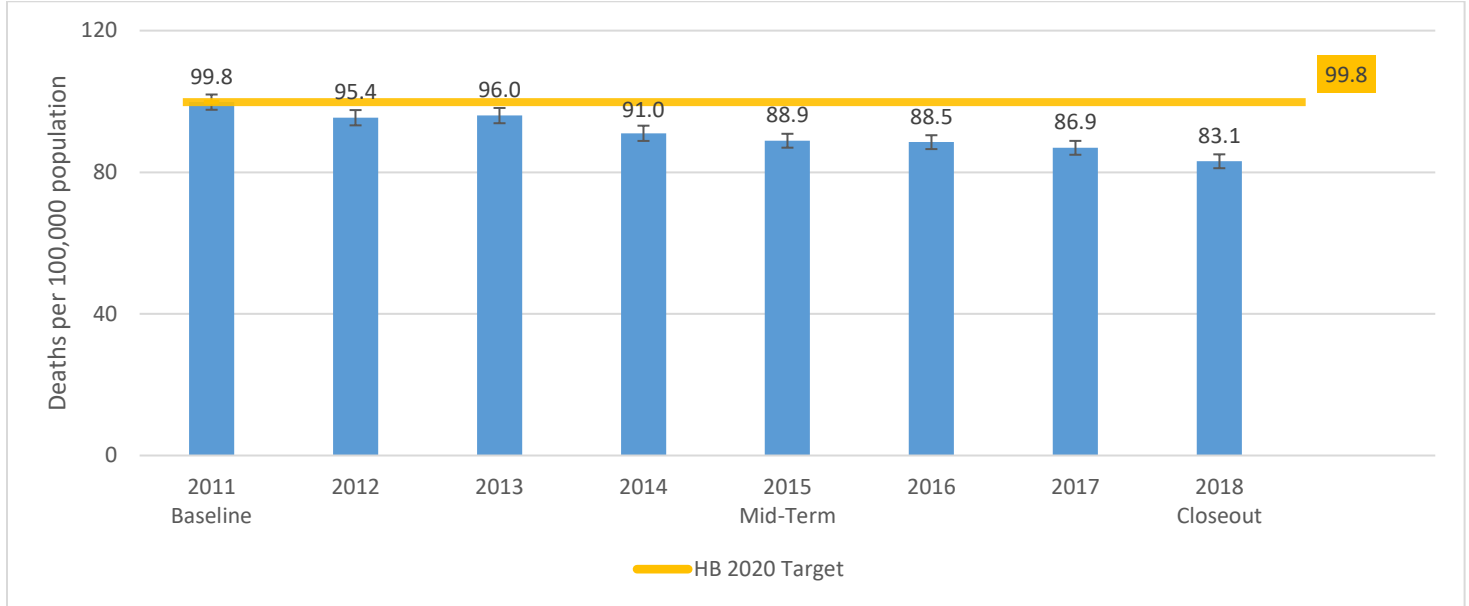
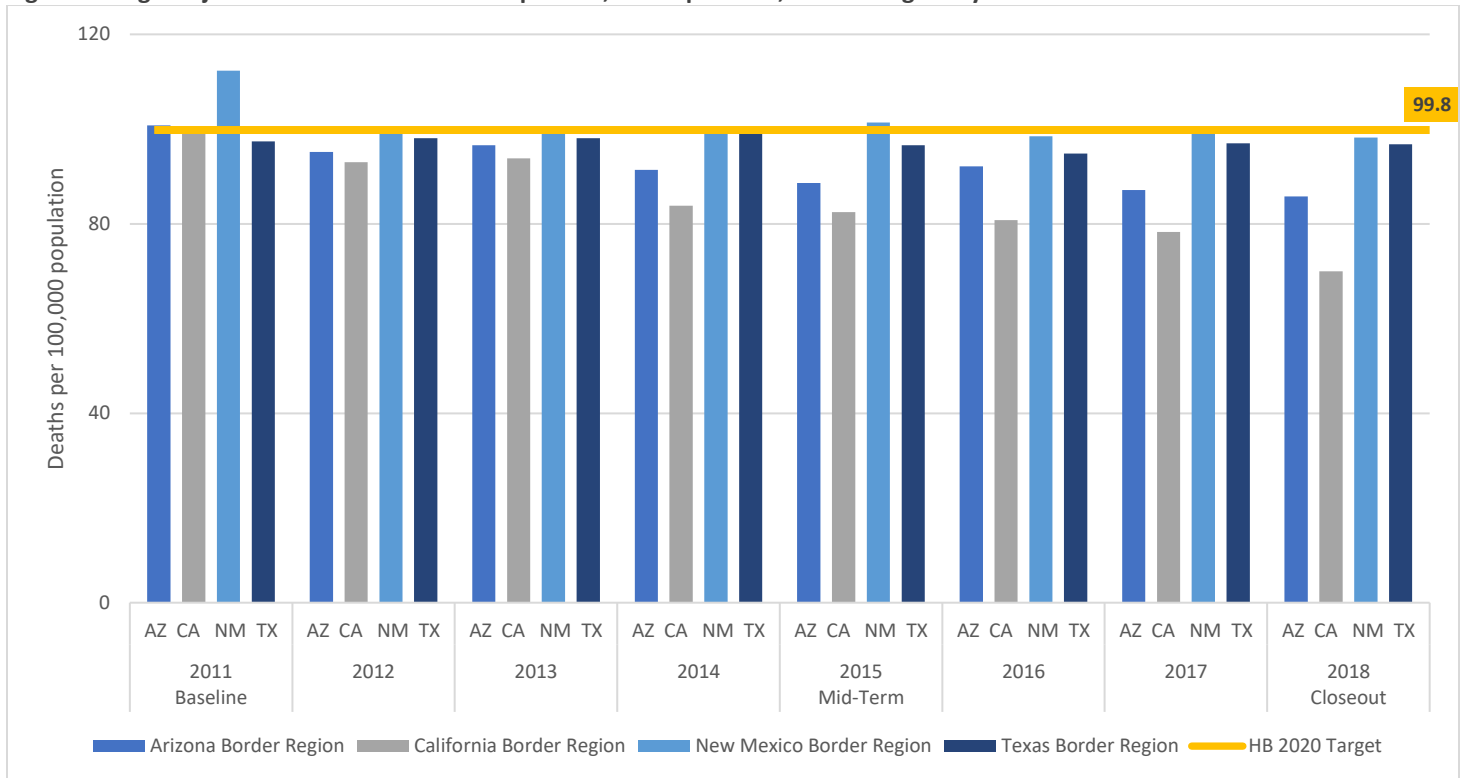
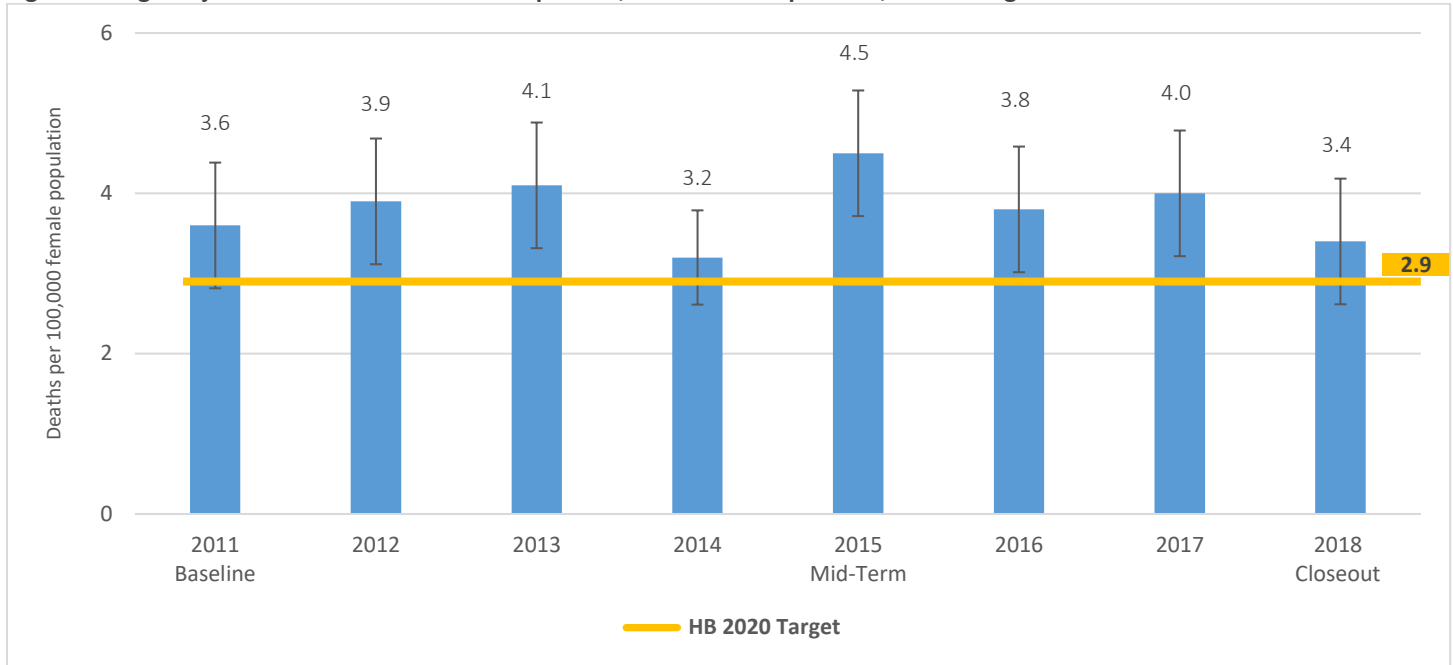
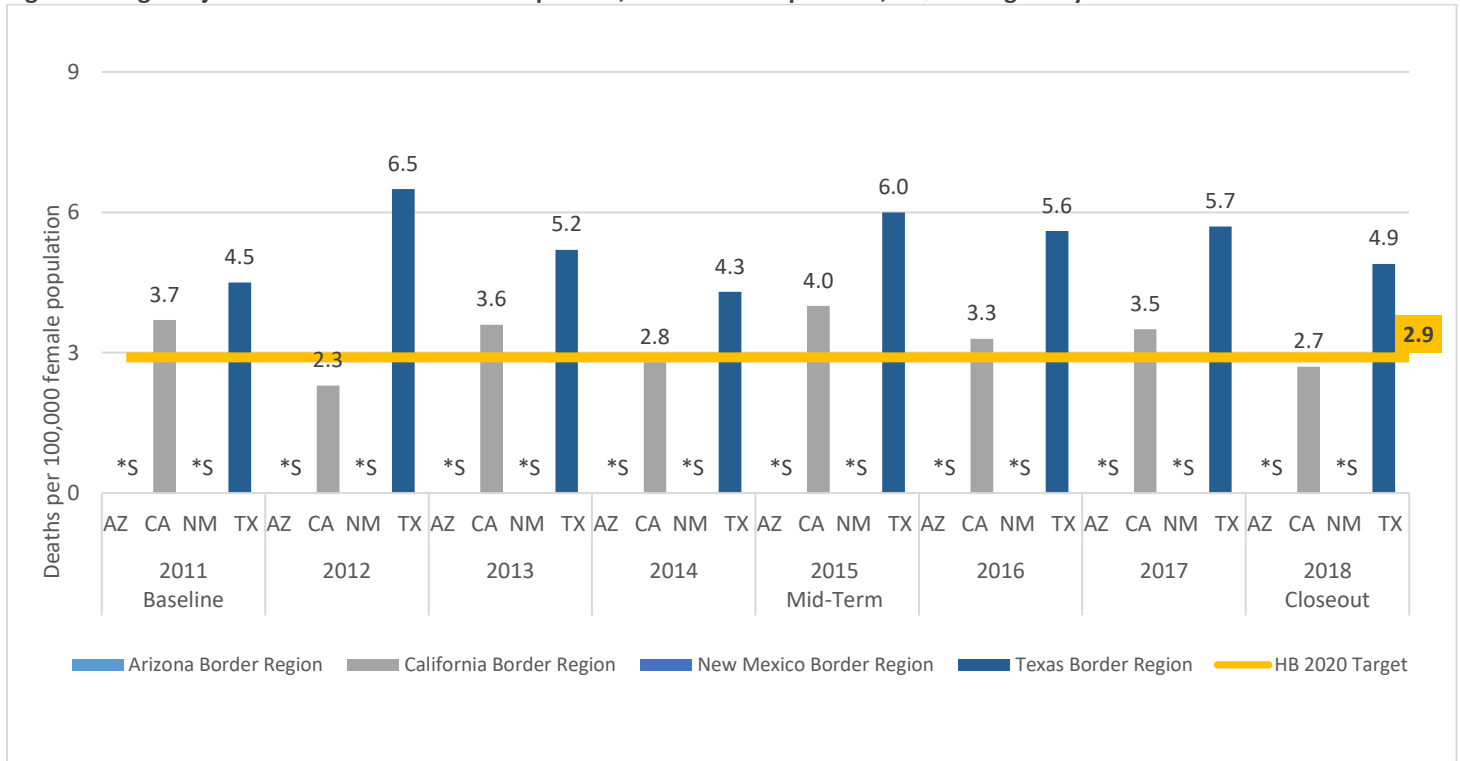


Figure 30: Age-Adjusted Heart Disease Deaths per 100,000 Population, Border Region by State: 2011-2018¹

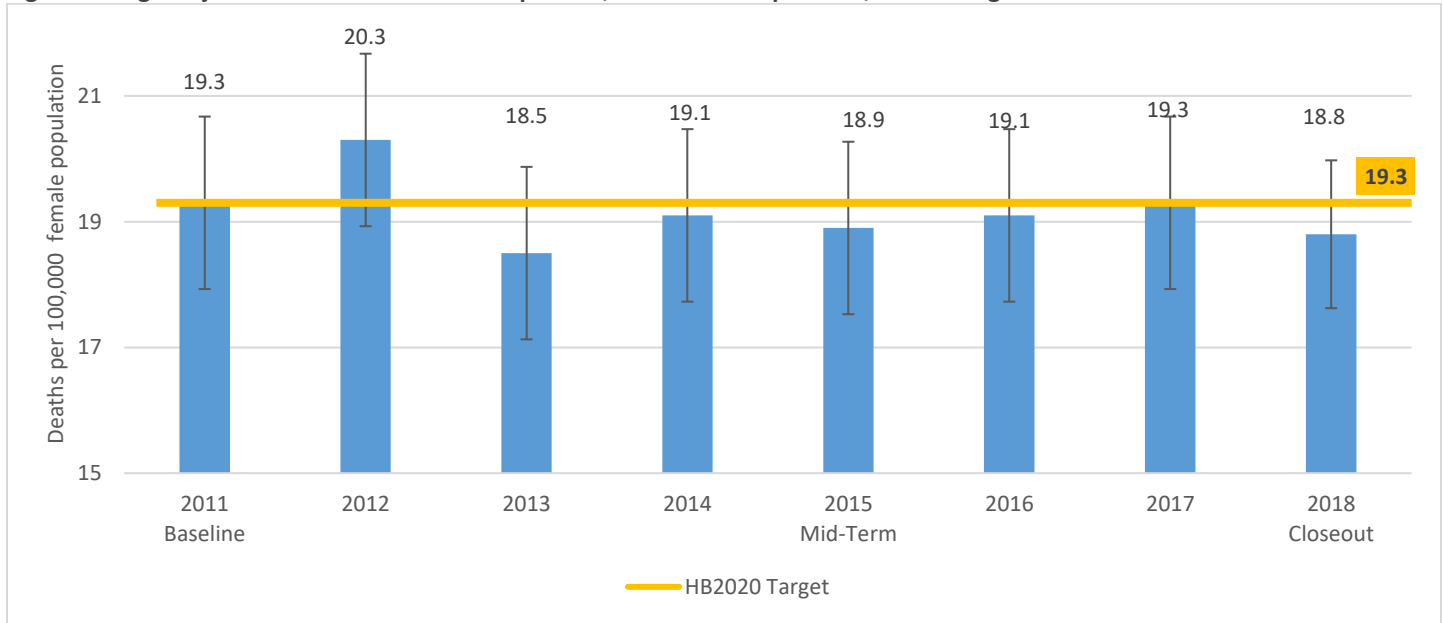
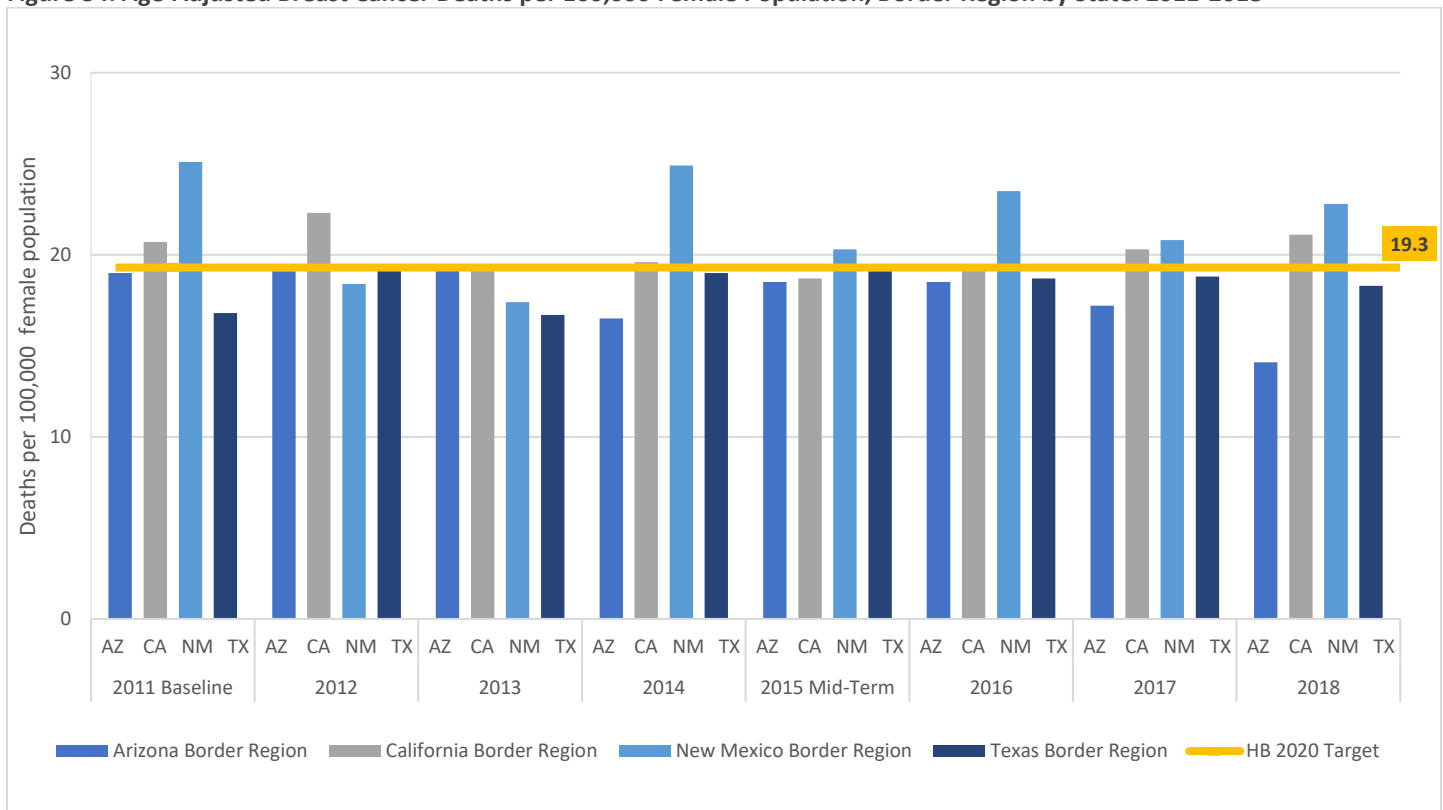


¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

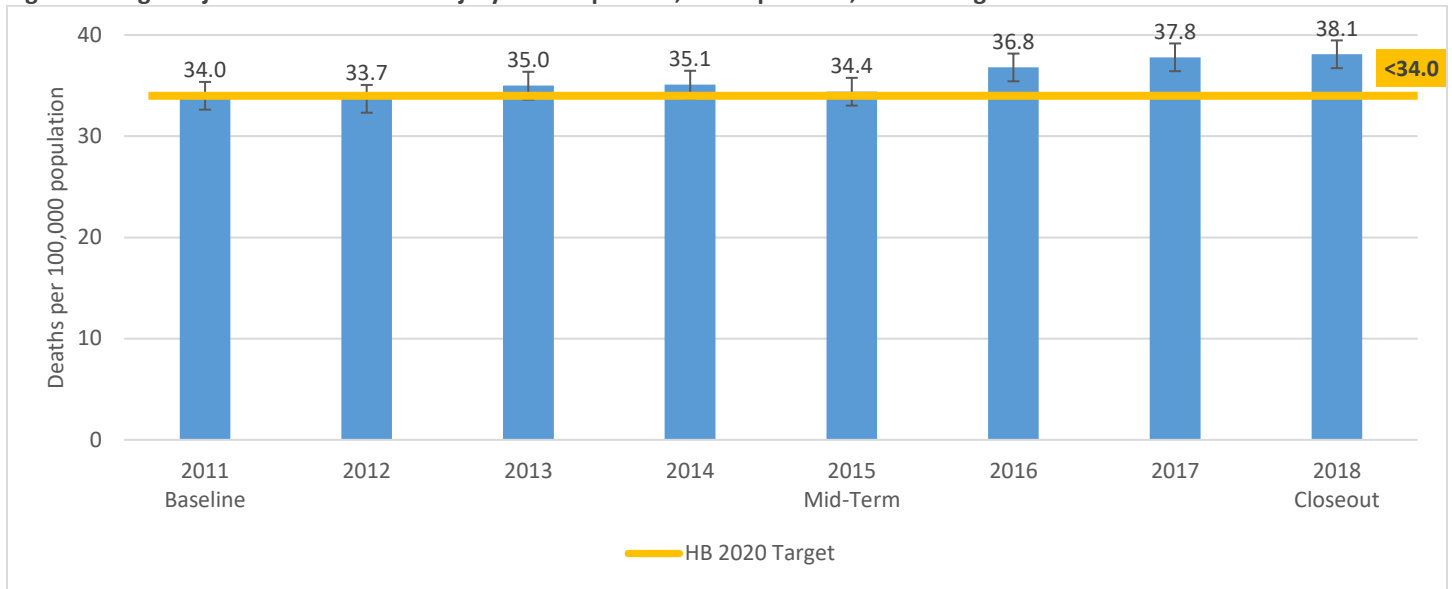
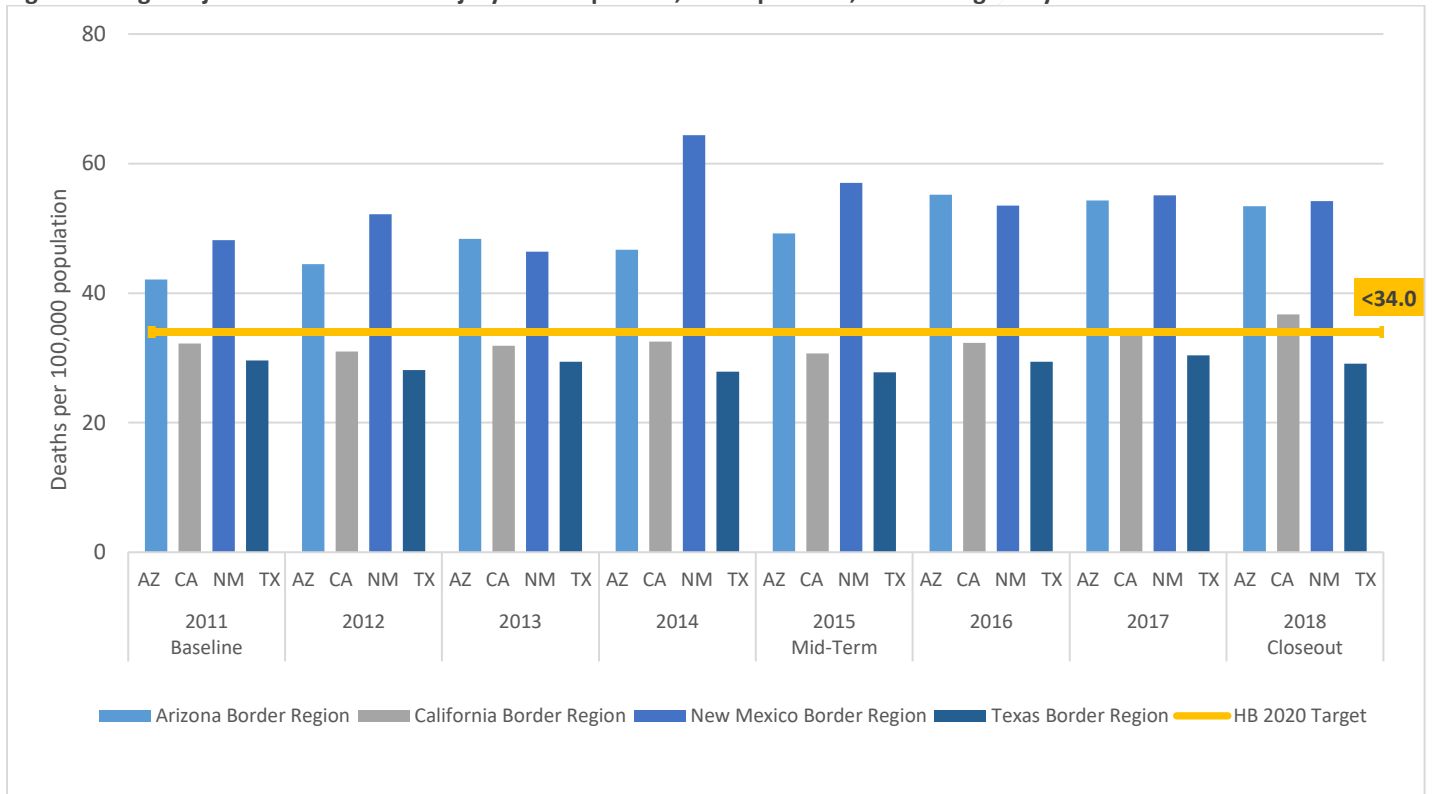
Figure 31: Age-Adjusted Cervical Cancer Deaths per 100,000 Female Population, Border Region: 2011-2018¹**Figure 32: Age-Adjusted Cervical Cancer Deaths per 100,000 Female Population, Border Region by State: 2011-2018¹**

*S= Suppressed

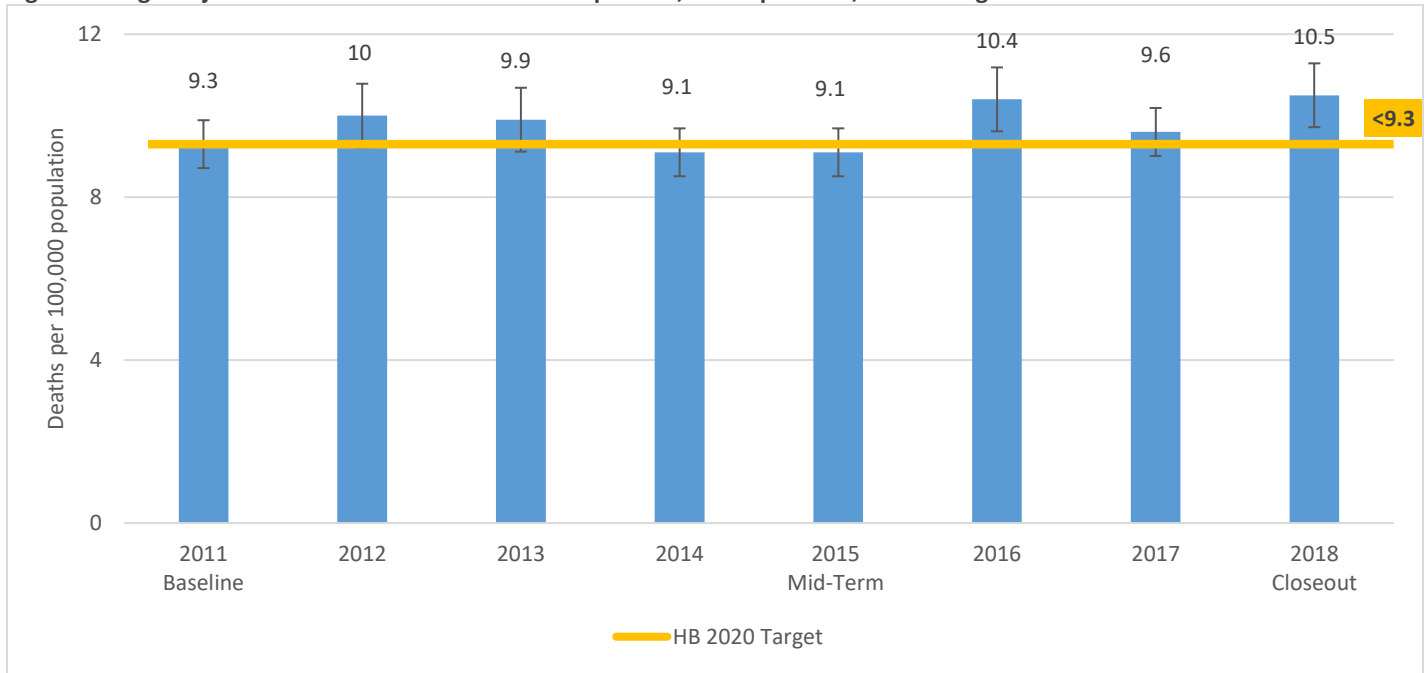
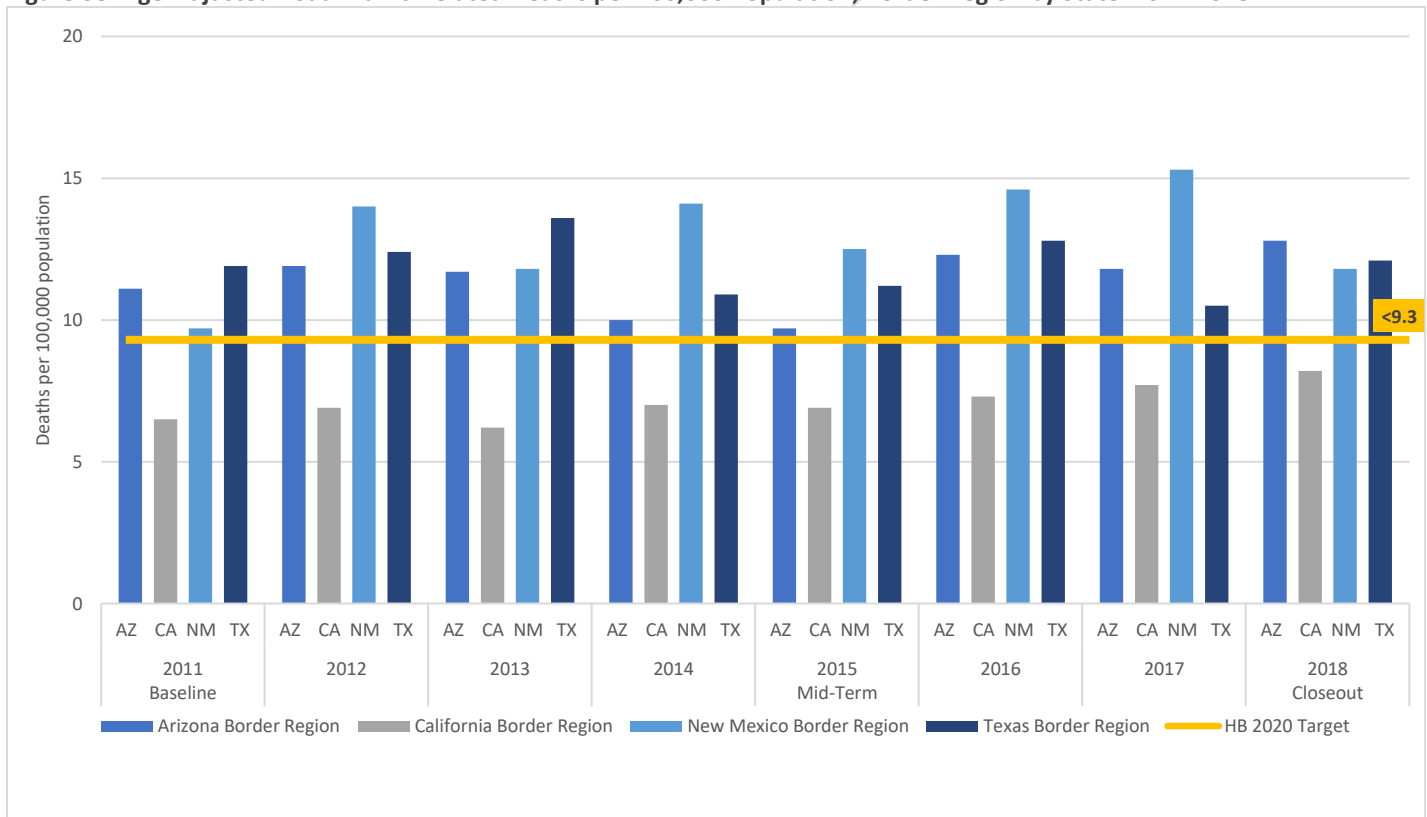
¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Figure 33: Age-Adjusted Breast Cancer Deaths per 100,000 Female Population, Border Region: 2011-2018¹**Figure 34: Age-Adjusted Breast Cancer Deaths per 100,000 Female Population, Border Region by State: 2011-2018¹**

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Figure 35: Age-Adjusted Unintentional Injury Deaths per 100,000 Population, Border Region: 2011-2018¹**Figure 36: Age-Adjusted Unintentional Injury Deaths per 100,000 Population, Border Region by State: 2011-2018¹**

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].

Figure 37: Age-Adjusted Road Traffic-Related Deaths per 100,000 Population, Border Region: 2011-2018¹**Figure 38: Age-Adjusted Road Traffic-Related Deaths per 100,000 Population, Border Region by State: 2011-2018¹**

¹ Data Source: National Center for Health Statistics, National Vital Statistics System, Mortality. "CDC Wonder Online Database; Underlying Cause of Death with U.S.-Mexico Border Regions 1999-2018," Centers for Disease Control and Prevention, National Center for Health Statistics, 2020. [Online]. Available: <http://wonder.cdc.gov/ucd-border.html>. [Accessed 27 April 2020].